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in Malawi SPRING 2006 **Erasing Borders, Forging Ties Cleaning Up Our Air Overcoming Obesity**



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FISCAL YEAR 2006

Tom Wong, PhD, MPH and Sandy Moulton, JD, MPH –

Making a difference in the public's health



Scholarships strengthen diversity & create new educational opportunities

UNC Alumni Tom Wong, PhD, MPH and Sandy Moulton, JD, MPH wanted to make it possible for students to afford to come to Carolina's School of Public Health.

"Both of us returned to attend the UNC School of Public Health after obtaining other degrees," says Sandy. "I had my law degree and Tom was working on a post-doctorate, so finances were tight and a government scholarship made it possible for me to go to school."

"We would never have thought it possible to establish a scholarship until someone asked us. Once we thought about it, it seemed like a good way to make it possible to help others afford this education," Sandy adds. "As a North Carolinian, it was important to me to support students from North Carolina and Tom wanted to help students from diverse backgrounds. We are so impressed by the quality of the students we meet."



Create a scholarship – transform a life. Scholarships provide opportunities for talented students who might otherwise not be able to pursue their educational dreams. Complete the enclosed gift envelope and invest in our future public health leaders.



Cospring 2006S











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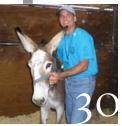
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Cover photo by Lauren Voltero

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20,000 copies of this document were printed at a cost of \$17,595 or \$0.88

Carolina Public Health is a publication of The University of North Carolina at Chapel Hill School of Public Health



DR. BARBARA K. RIMER

Greetings to all our readers — faculty, staff, students, alumni, our generous donors and many friends,

Welcome to the first issue of the new Carolina Public Health. It is the right time to celebrate the arrival of this new magazine. Never has public health been more important as we work together to confront challenges to the public's health across North Carolina and around the world. We live in a world in which two-thirds of Americans are now overweight or obese, where lack of fitness in American teens occurs twice as often as in apparently healthy adults, while 40 percent of the world's population lack clean water and 65 percent face starvation or sub-standard nutrition. As we saw after Hurricane Katrina, access to clean water is not only a problem of under-developed countries, although that itself would be reason for concern and action. More than ever before, public health is global public health, and you can read here about some of the exciting work our School is doing globally.

When many of us were trained in public health, it was common to say that infectious diseases were a scourge of the past while chronic diseases were the threat of the future. As AIDS progressed across populations, then across nations, and SARS, Avian flu and the next virus threaten our safety and our resources, we recognize that the world as we know it in public health has transformed, and so must the study and practice of public health itself. Being prepared for the future means confronting threats of natural and man-made disasters, facing threats of viruses and those of humans, and preventing chronic diseases while also assuring access to quality health care for all.

The UNC School of Public Health is leading critical research, teaching and service efforts in these important areas. Air, water, food, health are just a few of the words that characterize the work going on at the Carolina School of Public Health. Our faculty, staff, students and alumni are hard at work to determine how best to keep our air and water clean, protect us from health threats that we now know come from all over the world, improve the diets of children and adults, prevent cancer and cardiovascular diseases and so much more.

As you will read in the pages that follow, our work goes beyond describing and analyzing (important as those tools are) to developing effective interventions to overcome health threats-across North Carolina and around the world. We don't stop there. We actively strive in public arenas as well as the private sector to assure that what is discovered in our classrooms, laboratories and communities becomes part of public health practice so that our knowledge makes a difference. And in much of what we do, we focus on overcoming the results of existing health disparities and in preventing new ones.

Our faculty, staff and students are pioneering new ways of teaching, learning, and earning public health degrees. Read about the first online DrPH program—pioneered at the UNC School of Public Health—and the remarkable students who were among the first to enroll.

Our mission is to advance the science of public health and turn knowledge into action and practice to improve the public's health across North Carolina and around the world—through teaching, research and service. In the pages that follow and the issues that follow, we will tell you about the people and programs that are part of the UNC School of Public Health's efforts to improve the public's health. As the top-rated public school of public health, we have a special mission and responsibility and a special trust. We work every day to earn that trust.

I am so very proud of this school and all we have accomplished. But there is so much more to do. To remain a top school of public health, we need your support. We need your financial support to remain the public health innovator, train tomorrow's leaders, turn knowledge into policy and practice and transform the lessons of practice into even better training. But we also need you to be mentors and partners. As part of that, we always welcome your feedback about how we are doing and how we could be even better. I look forward to working with you to develop opportunities for collaboration.

If I could, I would take you on a personal walking tour down our halls, into our labs and classrooms, and into the clinics, streets, shops and government corridors around the world where the impact of our work is being transformed into hope and health. In a very real sense, I want this magazine to be that tour.

Please join me.



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Fighting Malawi

UNC researchers work to improve Malaria diagnosis and treatment; provide educational opportunities for Malawian epidemiology students

BY EMILY J. SMITH

Malawian native Linda Kalilani said she had malaria so many times as a child that she lost count. The 28year-old doctoral student in epidemiology at UNC's School of Public Health considers herself lucky.

Many in her country, where the average life expectancy is 41 years, don't survive their childhood bouts with the infectious disease. And those who do survive into adulthood, contract the disease many times before developing immunity to it.

"Many children get malaria five or six times a year and 40 percent of all children under two who die, die from the disease," says Dr. Steven Meshnick, professor of epidemiology at the UNC School of Public Health, and Kalilani's doctoral advisor.

It was Kalilani's interest in helping combat this disease in her country that brought her to UNC in 2003 to study. She is here thanks to a Fogarty International Training Grant — funding that has sponsored six other Malawian students at the School since 2003, including Adamson Muula and Atupele Kapito-Tembo, who are presently pursing doctoral degrees in epidemiology at UNC.

"Malaria is such a big problem in Malawi. I really wanted to do something to help fight it,"

says Kalilani who has a medical degree from the University of Malawi in Blantyre, and a master's degree in epidemiology from the University of Cambridge in England.

Kalilani is working with Meshnick on a study exploring preventative treatment therapies for malaria for pregnant women.

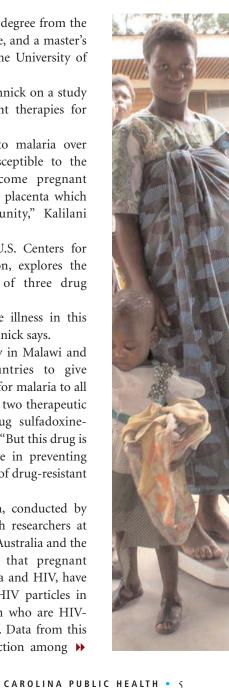
"Adults develop immunity to malaria over time, but women become susceptible to the disease again when they become pregnant because the parasite targets the placenta which has not yet developed immunity," Kalilani explains.

The study, funded by the U.S. Centers for Disease Control and Prevention, explores the effectiveness and tolerability of three drug treatment options.

New ways of controlling the illness in this population are imperative, Meshnick says.

"It is a national health policy in Malawi and about 20 other African countries to give intermittent preventive therapy for malaria to all pregnant women in the form of two therapeutic doses of the anti-malarial drug sulfadoxine-pyrimethamine," Meshnick says. "But this drug is becoming less and less effective in preventing malaria due to the development of drug-resistant strains of the parasite."

Furthermore, recent research, conducted by Meshnick, in collaboration with researchers at the University of Melbourne in Australia and the University of Malawi, found that pregnant women co-infected with malaria and HIV, have nearly double the number of HIV particles in their blood as pregnant women who are HIV-positive and don't have malaria. Data from this study also suggest that co-infection among >>>



tween North and South and disease



WHERE IS MALAWI? Located in southeast Africa, Malawi is bordered by Tanzania, Mozambique and Zambia.











▶ pregnant women may increase their risk of transmitting HIV to their babies by 25 percent.

"This work is important because it suggests that if we can protect women from malaria when they are pregnant, we might be able to reduce the likelihood of their transmitting HIV to their babies," Meshnick says of the research, published in the journal *AIDS*.

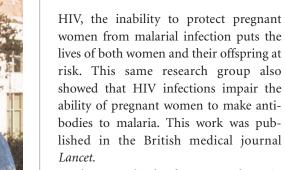
In addition, HIV makes pregnant women more susceptible to malaria. In a country where between 15 and 30 percent of the total population is infected with

Improving malaria diagnosis & management

Ntcheu, a moderately-sized town south of Lilongwe, Malawi's capital, sees its share of malaria infections.

"About 5,000 kids are admitted to Ntcheu District Hospital's pediatric ward each year, and during the rainy season, when malaria is most common, all 60 beds are filled with three children each — all sick with malaria," says Meshnick, who spends 10 to 20 percent of his academic work year on-site in Malawi.

"Malaria is such a big problem in Malawi. I really wanted to do something to help fight it."



About a third of new mothers in Malawi suffer from malaria, approximately a third are HIV-infected, and roughly 10 percent have both illnesses.

But diagnosis of the disease is sometimes slower than it could be and this delay can increase the severity of the illness in patients, and, in worst-case scenarios, lead to needless deaths, says Meshnick, who has been working with medical and hospital personnel to improve malaria diagnosis and management in the facility.

One change has been to educate doctors and nurses about the right questions to ask patients and the right tests to perform.

"If a kid is hypoglycemic or has menin-

gitis, they might display similar symptoms to malaria," Meshnick says. "So it's important for them to know what they're looking for and what to ask. To help with this, we've developed a checklist for providers."

Another change has been to move the lab where blood samples are taken to a location adjacent to where patients are seen by doctors so that if malaria is suspected, a blood sample can be immediately drawn and analyzed. Previously, if malaria was suspected, the sick patient would then have to wait in a long line at the lab to get a blood sample taken (this, after waiting in a long line to see the doctor in the first place).

UNC's ties with the University of Malawi

Meshnick's work in the country extends to the University of Malawi in Blantyre where he oversees the "Program in Infectious Disease Epidemiology" in the university's newly established master's in public health program, named the "School of Community and Public Health." About 15 students a year attend the new three-year program. A Fogarty International Training Grant, overseen by Meshnick, sponsors 5 to 10 of those students. Meshnick teaches classes at the university and provides research guidance to students.

"The biggest challenge in improving public health in Malawi is getting enough people in the country trained to implement all the public health programs that are needed," Meshnick says. "I see this work with the University of Malawi as one way to help with this."

Linda Kalilani's fellowship at UNC could also help with the long-term goal of improving public health in Malawi. Following her studies, she plans to return to her country where she hopes to use her knowledge and skills to help lessen malaria's destructive force in the country.

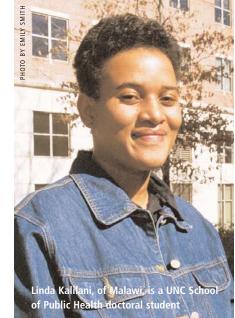
"One of the things that excited me about studying at UNC was the opportunity to do something to help with the situation back home," she says. "I've seen so many children die of malaria. I want to contribute what I can to fighting this disease."

Kalilani's presence at the School as well as that of her Malawian classmates Muula and Kapito-Tembo, also contributes to a richer academic environment for those with whom they share class.

"It must be interesting for UNC students to hear the perspective of Malawians on U.S. health problems like obesity," Meshnick says. "Their presence makes UNC a real international experience for U.S. students and gives them insight into what Africans are like as people."

PHOTOS: left to right (1) Malawian women and children wait in line to see doctors at clinic in Ntcheu; (2) Young Malawian women get water from a well; (3) UNC professor Dr. Steve Meshnick teaches epidemiology at the University of Malawi in Blantyre; (4) A young Malawian child is tested for malaria; (5) A Malawian toddler pauses for the camera.

"THIS WORK IS
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THEY ARE PREGNANT,
WE MIGHT BE ABLE
TO REDUCE THE
LIKELIHOOD OF THEIR
TRANSMITTING HIV
TO THEIR BABIES."



Erasing Borders Condense Conde

UNC committed to improving public health in Vietnam, world

BY SUBHASHNE SINGH JOY

The spread of HIV/AIDS, the emergence of bird flu, the threat of pandemic – these are just a few of the public health crises facing Vietnam and its neighbors.

Nhiem Viet Luong of Vietnam's Thai Binh City has a plan to help his country deal effectively with these threats. A second-year master's student in maternal and child health at the UNC-Chapel Hill School of Public Health, Luong is learning how to teach others how to avoid these diseases.

"If I can provide people in Vietnam with a knowledge of public health issues, I think I can help to prevent and defend against disease," says Luong who plans to pursue a doctorate in public health at Carolina before returning to his teaching position at Thai Binh Medical University.

Luong is one of seven Vietnamese students at the Carolina School of Public Health this year with the same goal in mind – learn, and take the knowledge home to improve their country's future.

Tuan Nguyen, a second-year doctoral student in nutrition at the UNC School of

Public Health who is from Hanoi, Vietnam, agrees that education is key to improving health in Vietnam where obesity is becoming increasingly prevalent while under-nutrition remains a significant problem. "In my country," he says, "people think a person who is fat is healthy and a person who is thin is weak. Older people cannot understand how anyone could ever be too fat."

Following graduation, Nguyen said he plans to return to his teaching position at the Hanoi School of Medicine, where he hopes the knowledge gained at Carolina can be passed to others there and used in his research.

The relationship isn't only one way. UNC students also travel to Vietnam to offer aid and learn about the region. Last summer, for example, 12 UNC students (including four from the UNC School of Public Health) traveled to Vietnam to participate in an eight-week Gardner Field Research Seminar where they learned about the history, culture, and current challenges in education and public health in the country.

Such collaborations enhance the educational experience of both Vietnamese and U.S. students, says Dr. Trude Bennett, an associate professor of maternal and child health at the UNC School of Public Health, who co-led last summer's seminar along with Howard Machtinger, director of the UNC Chapel Hill Carolina Teaching Fellows Program in the School of Education.

"Student exchange is important for both countries, as is collaboration between public health schools," says Bennett who has been developing collaborative exchanges with the Hanoi School of Public Health for several years now. "Vietnamese students learn the U.S. approach to public health training and teaching methods while U.S. students benefit from being immersed in another culture and witnessing the ingenuity and resourcefulness used to address health problems in a less developed country."

Students participating in last summer's Gardner Field Research Seminar worked in field placements with governmental and non-governmental organizations in Vietnam. They also studied Vietnamese language and culture, attended public health seminars and conducted site visits throughout the country to learn about health conditions.

"The experience knocked a lot of reality into me," says Andrea Yuen, a UNC School of Public Health undergraduate senior majoring in nutrition who took part in the seminar. "The problems are so great. I have a much greater respect for people in the field of public health."

Yuen, who is considering studying medicine, had the opportunity to shadow a Vietnamese doctor specializing in tropical diseases. She said that the experience helped her recognize her interest in preventive medicine.

"The Vietnamese hospital had all this expensive diagnostic equipment, but it didn't have basic sanitation to help prevent potential infections which could worsen a patient's condition," she notes.

Reden Sagana, a second-year master's student in the School's Department of



PHOTOS: (Above) A mother and her children spent time together in their home in the Mekong Delta of Vietnam; (Below) Howard Machtinger and Dr. Trude Bennett hold language diplomas next to the bust of Ho Chi Minh. The two UNC professors took a Vietnamese language course at the Saigon Vietnamese Language School during the summer of 2005 when they were in Vietnam co-leading the Gardner Field Research Seminar; (Bottom) Dancers perform in the Citadel at Hue, the old royal capital of Vietnam.





PHOTOS:

(above) Tuan Nguyen of Vietnam is one of 211 international students studying at the UNC School of Public Health. (right) From left, a student from the Public Health Faculty of the University of Medicine and Pharmacy of Ho Chi Minh City, Vietnam, celebrates in an intercultural reception in Vietnam with UNC students participating in the 2005 Gardner Field Research Seminar: Andrea Yuen, Judy Pham, Ingra Schellenberg, Janet Lopez and Josh Glasser.



Health Policy and Administration who participated in the seminar, said the cultural classes provided perspective in the ways that culture impacts Vietnamese lifestyle.

"There were things I didn't realize or that got lost, in terms of culture, until I took the cultural classes," says Sagana, who worked with CARE International during the seminar to improve workshops designed to educate home health caregivers in caring for people with HIV/AIDS.

The UNC School of Public Health's collaborations with Vietnam over the past few years have been numerous. In January 2004, Bennett went to Vietnam as part of an American and Vietnamese team

of public health experts who interviewed the first cohort of prospective Vietnam Education Foundation (VEF) fellows.

VEF was established in 2000 to fund Vietnamese graduate students for the study of science and technology in the United States. Begun as a means to convert Vietnam's payment of war debt Bennett, along with Dr. Peggy Bentley, associate dean for global health at the UNC School of Public Health and professor of nutrition, have built other Vietnamese connections with Carolina. In recent years, they served as technical consultants to the Hanoi School of Public Health, which implemented a new under-

"Our goal is to work toward applied intervention research among topics of relevance to Vietnam and internationally in the areas of reproductive health, maternal and child health, and nutrition."

into a scholarship fund, its purpose is to build a cadre of professionals who will be leaders in Vietnam's developing science, engineering and public health communities. Seven Vietnamese students presently studying at Carolina are VEF fellows. graduate program and strengthened its graduate training program. Bentley and Bennett have also worked with Hanoi faculty to develop a research agenda that could foster long-term collaboration between students and faculty at the two schools.

the University of

Malawi listen to

an epidemiology seminar given by

UNC professor Dr.

Steve Meshnick.

"Our goal is to work toward applied intervention research among topics of relevance to Vietnam and internationally in such areas as reproductive health, maternal and child health and nutrition," says Bennett.

The continuing effort is ultimately to strengthen ties between the Carolina School of Public Health, the Hanoi School of Public Health and other Vietnamese public health colleagues with the goal of equipping the next generation of public health leaders — both in the U.S. and Vietnam — with the tools needed to address emerging public health challenges.

These efforts seem to be working.

Tuan Nguyen says the analysis skills he's learning at Carolina will enable him to apply more advanced statistics in his research and use internationally accepted research standards. As a bonus Nguyen, who has written nutrition and health articles for Vietnamese newspapers and Web sites for the past five years, adds that he plans to continue the practice and through it, continue to improve the public health of his country.

Office of Global Health coordinates Burgeoning international activities

In a world where nations and economies are increasingly connected — whether through economic globalization, ongoing demographic changes, or environmental accidents or catastrophes — ill or good health in any population affects everyone.

It's with this perspective that the Carolina School of Public Health's Office of Global Health promotes and supports the School's and the University's many global health activities, including research, teaching and service projects.

"Providing a global health perspective

means emphasizing mutual information and cultural exchange among researchers, policy-makers and health personnel in different countries to address the myriad public health challenges of the world," says Associate Dean for Global Health Dr. Peggy Bentley. "HIV/AIDS, malaria, SARS, tuberculosis,

cancer and obesity are just a few of the issues that affect or have the potential to affect people in every country on the planet."

The Office identifies funding opportunities and helps develop proposals both independently and with UNC faculty engaged in global health research. It supports cooperative partnerships with investigators and institutions worldwide, develops formal internship and fellowship programs for students, hosts a monthly global health seminar series, works closely with a dynamic Student Global Health Committee, and offers a Global Health Certificate to graduate students wishing to learn how better to respond to the challenges of an interdependent world.

Last fall, the Office received a \$400,000 grant from the National Institutes of Health to expand global health curriculum and research opportunities across the UNC-Chapel Hill campus and engage faculty and



students in an interdisciplinary study of global health issues. The grant is one of 12 Framework Programs for Global Health grants issued to U.S. and foreign universities by the Fogarty International Center, the international component of the NIH. It will create the UNC Framework Program for

Health International and RTI International, and collaborators in South Africa, Malawi, India, Russia, Peru and Chile, in the development of multidisciplinary educational and research opportunities with a global focus," Bentley said.

Among other things, the new grant will

send two UNC faculty members and four UNC graduate students to teach and study in the Malawi-Carolina Summer Public Health Institute in Blantyre next summer, a program funded by another UNC Fogarty Grant.

UNC's campus partners in the Framework Program for Global Health include the Schools of Public Health, Medicine, Nursing, Dentistry, Pharmacy, and Journalism and Mass Communication; the College of Arts and Sciences; the Associate Provost for International Affairs' Office; the Student Global Health Committee; the University Center for International Studies; the Carolina Asia Center; the Institute of Latin American Studies: the Carolina Center for the Study of the Middle East and Muslim Civilizations; a newly established Center for African Studies; and several interdisciplinary centers, including the Carolina Population Center, the Carolina Environmental Program, the Center for Infectious Diseases and the Center for AIDS Research.

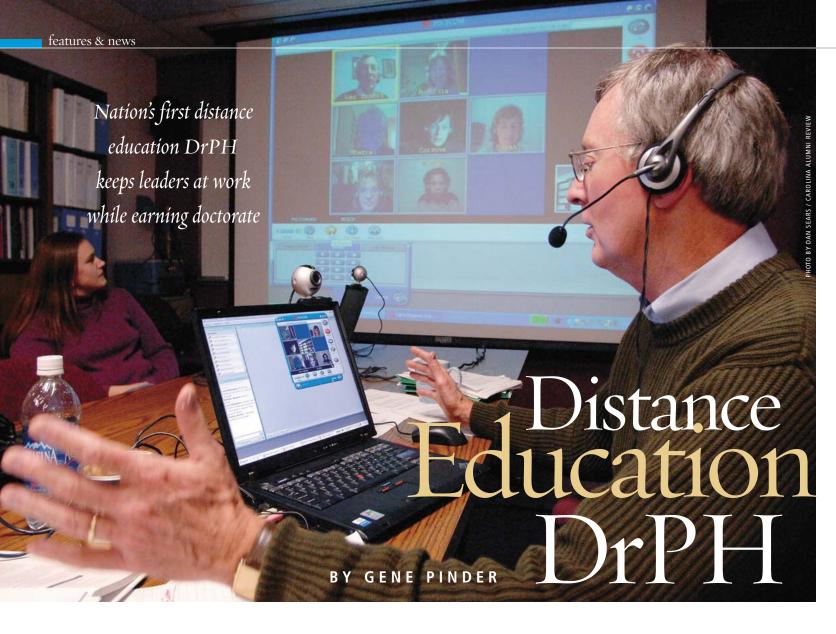
For more information about the Office of Global Health, visit their Web site at www.sph.unc.edu/ogh/.

- By Emily Smith

create the UNC Framework Program for Global Health. "The new UNC program will bring together a diverse set of formal partners on campus and engage local and international research organizations, including Family

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IO • SPRING 2006



A year ago, Joe Ichter faced a perplexing problem. The assistant director for the Center for Community Partnerships in Albuquerque, New Mexico was doing important work with one of the largest indigent populations in the U.S.

In addition, he was teaching residents at the University of New Mexico's medical school how to develop personal business plans and evaluate medical practices. He also loved living in the Southwest.

To help change and improve state health policies at a higher level – to help more people – he needed a doctorate. To get it, though, he would have to leave the job and community he really enjoyed and work that makes a difference to the public's health.

Corinne Graffunder had a similar problem. The branch chief in the division of violence and prevention at the Centers for Disease Control and Prevention (CDC) also wanted to go back and get her doctorate. But she also had elementary school-age children, and if she pursued her degree it would mean having to move the whole family

"I knew I had to do it while the kids were either in elementary school or had graduated high school," said Graffunder. "I didn't want to have to move while the kids were in middle or high school."

What solutions were available to them? Not many. Doctoral programs in public health almost always require a year in residence. If you were lucky enough to live in a location where a program was within commuting distance, you might be able to combine both work and study. But those situations are rare, and often result in excessive travel time for students.

Enter the Carolina School of Public Health's Department of Health Policy and Administration and some important technological changes.

The department has had a long history of offering a resident DrPH (Doctor of Public Health) program, but began planning to address the needs of public health leaders who cared. Advances in distance learning technology (including real-time, two-way video conferencing and document sharing), paved the way for the only program of its kind in the



PHOTO: (left to right) Dr. Ned Brooks, DrPH program director; DrPH students: Nicole Bates, Priscilla Flynn, Joseph Ichter, Lynn Redington, Debra Bingham, Michael Stobbe, Corinne Graffunder, Justine Strand and Sarah Verbiest, and DrPH program associate director, Suzanne Havala Hobbs. (left) Dr. Ned Brooks teaches a DrPH class via real-time, two-way video conferencing. Students participate in class via a Hollywood Squares-type video format in which all nine students can see each other on their screens simultaniously.

country. UNC-Chapel Hill is the only university currently offering a doctorate in health leadership almost entirely by distance learning.

And it's meeting a huge need.

"The demand for such a program is just staggering," said Dr. Edward (Ned) Brooks, director of the program. "There's always been a tremendous need to identify and train top leaders in public health. We just haven't been able to provide enough of them with that training because of these very real and personal roadblocks most people face. We think we are literally bursting open the doors of opportunity for these leaders and other universities will soon follow, at least that's our goal."

Indicative of just how much demand there is for the program, the inaugural cohort (class membership) received 89 applications for just nine positions. Another 100 applications were received before Thanksgiving for the program's second year, even though the deadline for application was January. Dr. Suzanne Havala Hobbs, the associate director of the program and a clinical assistant professor in the department, said that she is struck by the diversity of applicants. Not only do the applicants differ in their professional background and geographic region, but the DrPH is receiving strong interest from minority candidates, especially African-Americans and Latin-Americans.

"We're excited and impressed by the students who've elected to join our program," she said. "They're a great group."

The students agree.

"Our cohort is totally amazing," said Justine Strand, one of the first nine students selected for the program. "It's not competitive at all.

"WE ARE LITERALLY
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SOON FOLLOW."

Everybody has a great attitude and it's fantastic combining all of these different disciplines together."

"Interacting with the other students has really broadened my perspective," said Debra Bingham, the director of patient care services for maternal and child health at two large hospitals in New York City and a nurse by training. "I know I'm enriched by their

backgrounds and I think they're enriched by mine."

The group also consists of a healthcare writer based in Atlanta, a senior legislative associate for the Global Health Council in Washington D.C., a marketing and strategic consultant to emerging biotechnology and pharmaceutical firms, the executive director of a university-based center for maternal and infant health, the chief of a physician assistant program at Duke University Medical Center, the coordinator of women's health at the Mayo Clinic, and also Ichter and Graffunder.

For every one of them, the opportunity to continue their education and still contribute to their current organization meant even bigger opportunities to serve others.

"I definitely want to be at the table helping shape policy," said Nicole Bates, a former CDC staff member. "This program has given me more energy and excitement and I've re-dedicated my commitment to public health. It's not an overstatement when I say this program is just phenomenal."

"It builds confidence in being able to know you can add to the discussion at the table," added Bingham.

Part of the excitement comes in the form of a Hollywood Squares-type video format in which all nine students can see each other on their screens at the same time, including each others' cats, dogs and even children. Funding for the technical support is being provided by The Constella Group, a global provider of outsourced health intelligence and technology services.

"I like the fact that it's video based," said Lynn Redington, a consultant in California. "I've taken 22 or 23 classes online over the years, but most are text-based."

The format has required a learning curve of its own. Students say they had to learn how not to talk on top of one another—to raise their hand when they wanted to speak. But all of them agree the program is something very special.

"This program really speaks to the University's vision and innovative spirit," said Bingham. "I'm thrilled to be part of the inaugural group."

The students aren't alone.

"This is probably the most satisfying thing I've done professionally in a long, long time," said Brooks. ■

UNC researchers explore the genetic,

environmental and individual components

of obesity and weigh in with solutions

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BY EMILY J. SMITH

It's no secret that the United States has a weight problem. Sixty-five percent of American adults are either overweight or obese according to the latest National Health and Nutrition Examination Survey (NHANES).

What's more, the problem is getting worse. While just 23 percent of the U.S. adult population was considered obese during the 1988-94 NHANES survey, that figure rose to 30 percent during the most recent survey between 1999 and 2002.

Children and youth seem to be particularly at risk, with 16 percent of young people ages 6 to 19 being overweight today — a figure triple that of 25 years ago.

These figures are disturbing, particularly among youth, since children and adolescents who struggle with weight are at greater risk of being overweight as adults. And weight problems during any stage of one's life increase one's risk for numerous serious health conditions including type 2 diabetes, stroke, coronary heart disease, hypertension, gallbladder disease, osteoarthritis, sleep apnea, and breast, colon, and endometrial cancers.

"The situation is complex and because of this, the UNC School of Public Health is tackling the problem from multiple interdisciplinary angles including exploring the genetic, environmental and individual components of obesity and testing interventions to overcome the problem," says Dr. Barry Popkin, a professor of nutrition at the UNC Schools of Public Health and Medicine and a fellow at UNC's Carolina Population Center.

The School's obesity work includes:

- Interventions to increase activity levels among youth;
- Laboratory studies exploring the obesity predisposition of genes;
- Evaluations of the effectiveness of workplace weight-loss programs;
- The development of "toolkits" to help primary care physicians counsel parents about children's weight;
- Studies exploring how obesity impairs immune response;
- Development and evaluation of Internet-based weight-loss programs;
- And investigations into the ways that the environment affects physical activity and access to healthy foods.

"Over the past several decades, we've seen wide-ranging shifts in both diet and activity levels within every sector of the U.S. population. Consequently, interventions are needed at all levels of society to reduce obesity and help Americans become healthier," says Popkin, who heads the UNC Interdisciplinary Obesity Center (IDOC), founded last year on the Carolina campus with funding from the National Institutes of Health (NIH). The grant is part of NIH's "Roadmap for Medical Research," an initiative focused on transforming the nation's medical research capabilities and speeding the movement of medical and health discoveries from research to practice. The new Center brings together 75 faculty members from 23 departments and seven UNC schools. Thirty-one of the Center's faculty are from the School of Public Health.

"IDOC allows faculty to make new connections with other faculty across campus," says Popkin. "This has resulted in numerous new interdisciplinary research projects."

The following examples show the range of faculty and departments involved in approaching this issue from many perspectives.

Reaching youth: School researchers find ways to help teens create healthy habits

Finding ways to reach youth and nurture healthy habits is essential to overcome the obesity epidemic, researchers agree. For this reason, numerous multidisciplinary School studies — including the "Trial of Activity in Adolescent Girls." — focus on reaching this population. This NIH-funded study, known as "TAAG," is testing an intervention to reduce the age-related decline in physical activity known to occur among middle-school-age girls.

"We are working with 3,600 girls in grades six through eight in 36 middle-schools across the country," says Dr. June Stevens, professor of nutrition at the School of Public Health and TAAG's principal investigator. "We conducted surveys to find out what physical activities the girls liked. Later, we brought in people from each community who could offer activity classes at the schools such as kick-boxing, volleyball, aerobic dance, basketball and flag teams. Social marketing was conducted at all the schools to promote physical activity as

something 'cool.' Our goal has been to focus on environmental-level interventions such as the aforementioned group activities and marketing efforts to produce change rather than individual-level interventions."

"Accelerometers" are used to test the girls' activity levels. These are similar to pedometers, except they measure both the amount and the intensity of most movements. The girls wear them for a week prior to starting the intervention, and then for a week two years post-intervention.

"So whether they're running for a bus or sitting still at a desk, the device is recording their movements," Stevens says. It is expected that TAAG will reduce by half the age-related decline in physical activity that normally takes place among girls this age. Study results are expected in 2007.

Middle school girls from Sierra Middle School and Esperero Canyon Middle School in Tucson, Ariz., participate in the "Trial of Activity in Adolescent Girls" - or TAAG study. The study is testing an intervention to reduce the age-related decline in physical activity known to occur among middle-

school-age girls.



PHOTO BY CHRIS WALTHALL, PEDNET

Elementary School i

UNC School of Public Health's Active Living by Design Program.

Get Kids in Action challenges 5 million U.S. school children to "Get 60" everyday

Get Kids in Action is another program to create healthy habits in youth that School researchers have been instrumental in developing. The project — a partnership between the School of Public Health, the UNC Department of Athletics, and The Gatorade Co. — is identifying and implementing proven solutions to increase physical activity in children and decrease obesity in the United States.

Numerous studies and programs fall under this project's umbrella, including "Get 60," a program that will bring student-athletes from more than 25 U.S. universities into elementary-school classrooms this spring to inspire children to make physical activity part of their daily routine. The goal is to "Get 60" minutes of physical activity a day. Student-athletes will lead kids in weekly physical activity sessions and help them log their activities onto "Activity Trackers" supplied by either classroom teachers or available on the Get Kids in Action Web site (at www.getkidsinaction.org).

"What's unique about Get 60 is that studentathletes develop an ongoing mentoring relationship with children over the six weeks which seems to provide increased motivation for children to get more physical activity, which is key to addressing the epidemic of overweight," said Dr. Dianne Ward, the director of research for Get Kids in Action and Carter have worked with media to publicize the program and to challenge 5 million U.S. kids to "Get 60" every day.

Preliminary research results have found that the classroom-based program works. Pilot-testing in two North Carolina elementary schools last year showed that 82 percent of the children participating in the six-week program reported achieving 60 minutes of daily physical activity at the end of the program, compared to just 14 percent of the kids at the program's beginning.

The "Get 60" program will bring studentatheletes from more than 25 U.S. universities into elementary school classrooms this spring.

and professor of nutrition at the UNC School of Public Health.

To broaden the reach of Get 60, three national champion athletes have adopted the program and are assisting in its national expansion: Mia Hamm (UNC alum, U.S. Olympic gold medalist and World Cup soccer star), Jennie Finch (U.S. Olympic gold medalist and Chicago Bandits softball star), and Vince Carter (UNC alum, U.S. Olympic gold medalist, NBA All-Star and New Jersey Nets basketball star). Children can use the Get 60 Web site at www.getkidsinaction.org to select one of these national champions to serve as their own personal mentor and to complete their own activity trackers. Hamm, Finch

Get Kids in Action's research is coordinated through "Linking Interventions for Children" or "LINC"—the project's research arm. LINC researchers (which include faculty and staff from the UNC School of Medicine) are studying strategies that physicians, community groups and families can use to help children make wise food choices and become more physically active. One study, for example, is investigating the effectiveness of photo-equipped cell phones in assisting parents to measure their children's diets. Kids involved with the study take pictures of their plates of food at the beginning and end of each meal, thus creating a record of how much was eaten. Another LINC study is developing objective measures of TV viewing time; and a third is testing the effectiveness of the "Dance Dance Revolution" video game in increasing activity levels among children.

"We are studying the problem from all angles to find places where successful interventions can be put in place," Ward says.

N.C. school children participate in "Get 60," a recent "Get Kids in Action" pilot project pairing UNC student athletes with elementary schools for six weeks to inspire children to get 60 minutes of daily physical activity.

Targeting primary care physicians: UNC researchers arm physicians with skills to confront the country's growing childhood obesity problem

The School of Public Health is reaching out to kids through pediatric and family medicine primary care providers.

"Primary care providers are in a key position to identify children who are either overweight or at risk for weight problems and intervene directly via counseling or by offering parents links to existing community resources," says Dr. Alice Ammerman, associate professor of nutrition and the principal investigator of an NIH-funded study aimed at developing and testing interventions designed to train and equip pediatricians, family practitioners, and their office staff to use their influence to combat the obesity problem.

The project is a collaboration with researchers from the UNC School of Medicine, UNC School of Nursing, UNC College of Arts and Sciences, North Carolina State University, Research Triangle Institute, North Carolina Department of Health and Human Services, and AccessCare. The pilot work for this research was conducted through the School's LINC project.

Among other things, the study is developing toolkits for providers and case managers to assist them with behavior risk assessment and communication when discussing physical activity and nutrition with parents. The kits will include strategies for using Body Mass Index (BMI) to identify children who may be at risk for weight problems. BMI is an indirect measure of body fatness calculated from a child's height, weight, age and sex. Also included are brief assessment and counseling guides that target key lifestyle behaviors associated with obesity in children.

"I think a lot of providers are afraid of offending parents when talking to them about their child's weight," Ammerman says. "Using a color-coded BMI tool gets around that and allows physicians to talk to parents about weight in a more factual and less threatening way, and the counseling tools provide concrete and practical ideas on how to achieve and maintain a healthy weight."

Later stages of the study will explore ways that providers can influence local policies impacting obesity including school nutrition and exercise policies and city planning policies influencing placement of trails, parks and sidewalks in communities. The five-year study, which runs through 2010, will be working with 24 pediatric practices serving lower-income families in primarily rural North areas of Carolina.

"While providers are viewed as influential leaders in their communities, they

often lack the tools, training and support needed to mount either practice-based or community-level interventions to fight obesity and consequently lack confidence that they can help combat this growing epidemic," Ammerman says. "It is our hope that we can provide them with some of the necessary tools to do so."

PHOTO BY EMILY SMIT

PHOTO: (left to right) UNC physicians Dr. Ross Kuhner and Dr. Eliana M. Perrin council Millie Dunbar Gregory and her 5-year-old daughter Edwina about exercise and nutritious eating options.

UNC-developed interactive nutrition curriculum now used by 134 medical schools worldwide

"Nutrition in Medicine" — a nutrition program for medical school students developed by Dr. Steven Zeisel, UNC nutrition professor, and a team of researchers from the UNC Department of Nutrition — has made the move from CD-ROM to the Internet, allowing more medical students to learn how nutrition affects health and disease, and providing a way for instructors to more easily add and update materials.

The curriculum, which has been available on CD-ROM since 1998, consists of 11 major topics: pediatric overweight; sports nutrition; and nutrition and cancer, all now available online at ttp://www.nutritioninmedicine.org/, and nutrition and metabolic stress; diabetes and weight management; maternal and infant nutrition; nutrition and growth; nutrition for the second half of life; dietary supplements and fortified foods; nutritional anemias; and diet, obesity and cardiovascular disease; all presently available on CD-ROM and scheduled to become available online by spring 2007. Users must register to access the online modules.

UNC School of Public Health researchers are working with Medeor Interactive, Inc., to make course material available as continuing education for physicians and other health professionals. The curriculum is presently used by 95 U.S. medical and osteopathic schools and 39 international schools.

In the Lab: UNC researchers search for "fat" genes, identify connection between obesity and immune response to influenza

The School's obesity research extends beyond the field and into the laboratory where UNC researchers are exploring both the genetic causes of weight problems and the increased disease risks that may result from excess pounds.

One example is a first-of-its-kind study examining the effects of obesity on the immune response to influenza infection directed by Dr. Melinda Beck, professor of nutrition at the UNC School of Public Health and professor of pediatrics in the UNC School of Medicine.

Study results, presented at a scientific meeting of the American Society of Nutrition in spring 2005, found that diet-induced obesity reduced laboratory mice's ability to turn on elements of their immune system needed for controlling influenza infection. Obese mice were 10 times more likely to die when infected with

the flu virus than mice of normal weight, the study found. Such findings raise the possibility that obesity in humans has a similar effect, Beck says.

In other laboratory research, Dr.
Daniel Pomp, professor of nutrition at the School, is identifying key genes (and groups of genes) that influence predisposition to obesity in mice. Once isolated, researchers will investigate whether such genes play a similar role in humans. Better understanding of the genetics of obesity could allow scientists to develop new diagnostic and obesity-management tools, including drugs to block or alter the products of obesity-related genes.



Dr. Melinda Beck is researching the effects of obesity on the immune response to influenza infection in mice. Her research has found that the heavier mice have less capacity to fight the virus than normal-sized mice.

UNC researchers test community and workplace initiatives designed to promote healthy lifestyles



A Seattle elementary school student carries her food tray to a table. To accommodate a culturally diverse student body, a Seattle elementary school participating in UNC's Healthy Eating by Design community partnership has introduced healthy traditional and ethnic cuisines into their school cafeteria.

The U.S. obesity problem is not one that's easily solved. Individuals and communities are up against the mainstays of modern society. We live in neighborhoods bound by roads that are unwalkable. We drive even short distances to go to school, work or shop. We eat foods sweetened by inexpensive (but fattening) high-fructose corn syrup. We sit for most of our working and leisure days, and our schools sell snack foods and soft drinks, cut physical education and recess times, and only irregularly offer nutrition education. Although we all know these things are bad for us, there are very strong forces that keep them in play.

"We've got a long way to go to turn this problem around," Popkin says. "Essentially, our country is in the same place politically in regard to obesity that we were in the 1950's and '60's when we first began to think about the need for tobacco control in the U.S. There's a lot of work to do. Many initiatives will need to focus on the physical, social and economic environment."

Numerous School studies and projects are taking on the challenge of changing our environment. Active Living by Design is one of those. Program staff involved with this project, which is funded by the Robert Wood Johnson Foundation, are providing technical assistance to 25 U.S. communities to improve community design, transportation options, and trail and park accessibility - all features that influence the physical activity levels of community residents. In addition to addressing changes in the physical environment, Active Living by Design community partnerships focus on policy changes as well as programs and promotional activities. The idea is that integrating these "5Ps" in one place can create the opportunities and social support necessary to help people make physical activity part of their daily routines.

Additionally, last spring, Active Living by Design launched its "Healthy Eating by Design" pilot program by awarding grants of \$50,000 to 12 of its 25 community partnerships to increase access to healthy foods and opportunities for healthy eating for children in low-income communities and schools.

"One unique aspect of this program is that it focuses on healthy eating from an environmental and policy perspective," says Sarah Strunk, director of Active Living by Design. "A variety of studies confirm that families who live in low-income communities are less likely to have access to affordable and nutritious food. Research has shown, for example, that low-income communities have more fast-food restaurants and fewer accessible supermarkets and farmer's markets than higher-income communities."

The Healthy Eating by Design project is helping communities, many of which are low income, to apply the Active Living by Design 5P model to approaches that provide affordable, healthy and appealing foods in the places where children live, learn, and play. Healthy Eating by Design project initiatives include developing farmer's markets and community gardens; limiting the availability of unhealthy food for purchase in neighborhood stores and restaurants; and developing healthy eating policies and guidelines for school snack programs, vending machines and afterschool programs.

"A school principal in one of our Healthy Eating by Design communities has implemented a school policy that discourages teachers and other school personnel from walking around campus carrying or eating unhealthy foods like soda and chips," Strunk says.

The grantees' 18-month Healthy Eating by Design pilot projects run through December 2006.

The work environment is another arena that School researchers are changing. In a new \$1.3 million study funded by the Centers for Disease Control and Prevention (CDC), School researchers are investigating

how workplaces can be improved to support those trying to lose weight.

The study, known as "North Carolina WAY to Health Project," is working with 1,100 employees in 15 North Carolina community colleges to test three different approaches that may assist employees who want to lose weight. "WAY" is an acronym for "Worksite Activities for You."

"More than 60 percent of U.S. adults over age 18 are employed and spend a great deal of their waking

PHOTO BY CHRIS WALTHALL, PEDNET

Elementary school students in Columbus, Mo., participate in "Walk-to-School Day" organized by the PedNet Coalition, a Columbia-area bike-ped advocacy and promotion group.

Study participants are randomly assigned to one of three program conditions. The first is an environment-only program called the Winners' Circle Dining Program, which attempts to increase access to healthy foods at work. The second adds a state-of-the-art Web-based weight-loss program to the "Winners' Circle." The Web-based program was developed by Dr. Deb Tate, assistant professor of nutrition and health behavior and health education at the School. The third program condition offers both the

Winner's Circle

program and the Web-based program along with cash incentives for those who lose weight and maintain the weight loss over a 12-month study period.

"If we find effective weight-loss strategies, we will work with our partners to disseminate them to other interested employers across the state," Linnan says.

"One unique aspect of the Healthy Eating by Design program is that it focuses on healthy eating from an environmental and policy perspective"

hours at work," says Dr. Laura Linnan, the study's principal investigator and an associate professor of health behavior and health education at the School. "Offering work-place health promotion programs — including weight-loss programs — makes sense, however employers need to have some idea about what programs are effective. Our study addresses this important gap in knowledge."

Collaborative partners in the study include the N.C. Community College System, Research Triangle Institute, the N.C. Department of Health and Human Services, N.C. Prevention Partners, Blue Cross Blue Shield of North Carolina and the State of North Carolina Teachers and State Employees Comprehensive Major Medical Plan.

Anne Menkens contributed to this report.

Cleaning up 11 air

Building on three decades of smog chamber research: Human lung cells are being used to test the toxicity of the air we breathe



Cells lining the human lung know a toxic air pollutant when they see one. When a toxin is in their midst, the cells call out to one another via chemical signals in an effort to get other cells to come to their aid.

Sometimes, however, the pollutant is too overpowering, and the cells die

This innate lung cell behavior is proving useful to researchers at the University of North Carolina at Chapel Hill (UNC) where scientists are using human cells in air quality research to test the toxicity of gases and particulate matter breathed daily by humans.

These investigations are part of the "One Atmosphere Research Program" – a joint venture of the UNC Schools of Public Health and Medicine begun in 2002 and funded by the Environmental Protection Agency (EPA).

"An estimated 60,000 deaths occur in the United States each year due to urban exposure to fine particles, but the particles themselves may not be what's most dangerous," says Dr. Harvey Jeffries, professor of atmospheric chemistry in the UNC School of Public Health's Department of Environmental Sciences and Engineering and a principal investigator for the One Atmosphere Research Program.

"Instead, it may be the toxic gases that adhere to them," Jeffries says. "Particles can penetrate deep into human lungs, and those with sorbed toxic gases can become 'toxic delivery systems to human lungs."

The nation's largest smog chamber

The lung cell research is an extension of more than three-decades of air quality research designed and implemented by faculty of the UNC School of Public Health's Department of Environmental Sciences and Engineering.

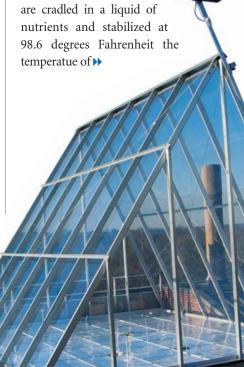
The School began its smog chamber work with the 1970 construction of the UNC Ambient Air Research Facility – a double smog chamber used to study the chemistry of gaseous air pollutants. Framed in wood, the structure is lined with transparent Teflon film walls through which ultraviolet, infra-red and natural light can pass.

Located on a lush landscape

in Chatham County three miles east of Pittsboro, N.C., the structure (which was rebuilt in the 1980s and again in the 1990s after its wood frame deteriorated) is the nation's largest and the world's second largest outdoor smog chamber. Each of the two side-by-side chambers measures 150 cubic meters — or the length of about 200 twenty-five-cubic-foot refrigerators.

Human lung cells, which are used to represent the lining of the respiratory tract, have been incorporated into the research conducted there by connecting the chambers to incubators in the adjacent lab via aircarrying glass and Teflon tubes.

In these incubators, the cells are cradled in a liquid of



The School's newest smog chamber, perched atop McGavran-Greenberg Hall on the UNC campus, is used to test the toxicity of gases, particulate matter, smoke and aerosols.

PHOTO BY DR. KENNETH SEXTON

features & news CLEANING UP OUR AIR

▶ the human body — and are exposed to either clean air or pollutant mixture at a rate of one liter per minute.

"We use exposure to these cells to model what could potentially occur in the human lung upon inhalation of air pollutants," explains Dr. Ilona Jaspers assistant professor in the UNC School of Medicine's Department of Pediatrics and a principal investigator for the One Atmosphere Research Program. "Epithelial cells line the respiratory tract and are therefore one of the first targets for any inhaled material including air pollutants."

Inflammatory and cell viability changes in the lung cells help identify which chemicals and/or particles can cause health problems, Jaspers says.

One common finding from air pollution chamber studies has been that exposure to sunlight often converts non-toxic gases into toxic substances, and

New Directions

The One Atmosphere Research Program recently expanded its research capabilities with the construction of a 120-cubic meter chamber on the Carolina campus that allows UNC researchers to use lung cells to explore the toxicity of not just gases, but also particulate matter, smoke, and aerosols.

Perched atop McGavran-Greenberg Hall, the School's newest chamber is framed in aluminum and lined with transparent Teflon film. Air ducts connect the chamber to a laboratory immediately below it on the building's fourth floor. Construction was completed in summer 2004. (The School has two other chambers — both in the Chatham County location — but lung cells are not used with these. One is for studying wood smoke and the other to research aerosols.)

"We introduce amounts of hydrocarbons

"In developing good public health policy, it is crucial to understand how various pollutants and photochemical transformations ultimately affect human health."

converts toxic gases into other gases with even higher toxicity.

Methanol, for example, is the second-most common toxic solvent pollutant emitted by U.S. factories. In its original form, it is fairly non-toxic. When it is exposed to sunlight, it breaks down into formaldehyde, a carcinogen; and carbon monoxide, a colorless, odorless gas that is one of the six major pollutants regulated by the EPA. Formaldehyde's toxicity is much higher than methanol's.

Additionally, one recent chamber investigation of an "urban mix" based on air samples from 40 U.S. cities found that the mix exposed to sunlight was two to three times more toxic than the same mix when it had not been exposed to sunlight.

chamber, the air is re-circulated through filters and purified before any experiments are conducted so we're not taking whatever Chapel Hill offers up on any

chamber experiments are conducted on sunny days from spring through late fall.

into chambers representing the way that hydrocarbons are emitted into the atmosphere in the real world by automobiles and industry," says Dr. Donald Fox, professor and interim chair of the Department of Environmental Sciences and Engineering. "With the new McGavran-Greenberg

given day." The School's smog

"We know we only get so many sunny days each year so we try to be prepared for them," says Dr. Kenneth Sexton, research associate of analytical atmospheric chemistry in the School's Department of Environmental Sciences and Engineering. "If we get eight good experiment days a month, we're

Being prepared for those sunny days means making sure that chambers are filled with pure air and ready to use, and that adequate numbers of cells are available.

In most experiments, a small amount of the substance being studied (i.e. methanol, "urban mix," etc.) is introduced into a clean chamber just before sunrise and exposed to sunlight all day. Every two minutes throughout the day, lab instruments sample chamber air and record the amount of ozone, nitrous oxide and other chemicals produced. At sunset, the lung cells are introduced to the chamber air and exposed for five hours. Later, Enzyme Linked Immunosorbent Assays, or "ELISA" tests, are conducted on the products released by the cells to map their biochemical changes.

"Lung cells are able to produce and release mediators that recruit and/or activate other cells into the lung," Jaspers says. "In particular, we examine the effects of photochemical transformation of air pollutants on the release of pro-inflammatory mediators that are known to play an important role in inflammation of the airways."

Policing our air

Throughout the last three decades, the School's contributions to clean air have been substantial.

"Our early studies involved helping the EPA demonstrate how







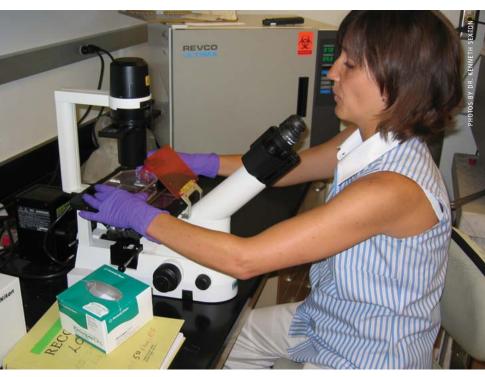


PHOTO: (left) Human lung cells are placed into vials. They will later be exposed to air toxins from the smog chambers. (Right) UNC professor Dr. Ilona Jaspers prepares to examine lung cells through a microscope.

control of hydrocarbon gases might affect ozone and nitrogen dioxide levels in urban areas," says Jeffries, who has served as an advisor to the EPA for more than 30 years.

Hydrocarbon gases are generated by various industrial processes as well as by cars, trucks, buses, earth-moving equipment, power tools, trains, airplanes and other vehicles powered by hydrocarbon-based fuels such as gasoline and diesel. Hydrocarbons also react with nitrogen oxides in the presence of sunlight to form ozone.

Since 1975, the School's researchers have also provided the EPA with data to test mathematical computer models that help the EPA regulate ozone levels throughout the

"Any city that exceeds the national standard for ozone is required to run these computer models to help them figure out how to lower the ozone levels in their city," Jeffries says. "Basically, every EPA model for ozone has been tested with data from our chambers."

Controlling ozone levels is crucial. In addition to attacking human lung cells and causing a variety of human health problems, ozone is able to crack rubber by attacking the natural bonds in the organic polymer. It attacks plant surfaces and burns holes in the surfaces of leaves. Even when ozone does not leave visible damage on leaves, it still causes plant damage — reducing growth of commercial crops after even moderate levels of exposure. Furthermore, the chemistry that forms ozone also forms the toxic organic gases and the organic material that sticks to particles that are then breathed by humans.

"We definitely want to reduce ozone to protect human health and to protect sensitive agricultural and natural ecosystems,"

Controlling ozone is tricky business. That's because ozone is a secondary pollutant formed by the photochemical reactions of other directly-emitted pollutants (such as hydrocarbons and nitrogen oxides). It can't be reduced by any direct means. Instead, one has to reduce these primary precursor

Unfortunately, there is no direct relationship between the amount of ozone formed and the amount of primary pollutants emitted into the air. In fact, it is possible to reduce one of the ozone precursors and have ozone levels increase.

"Because of this, it has been very important to the EPA to have a scientific explanation for ozone formation — one capable of making accurate predictions of the effects of various control strategies so that effective regulatory policies can be made," Jeffries says

Jeffries expects that UNC's new research direction will be able to provide equally valuable information for the EPA.

"The use of lung cells in air quality research allows for direct observation and documentation of pollutant-induced effects that can be correlated with pollutant dose important for risk assessment and later public policy formation," Jeffries says.

Additionally, the environment and nutrients of the cells can be manipulated to mimic disease states and nutrient deficiencies.

"This allows us to identify how specific compounds affect various parts of the human population including the healthy, those with pre-existing disease, and the elderly," Jeffries says. "In developing good public health policy, it is crucial to understand how various pollutants and photochemical transformations ultimately affect human health."

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Online BY ELIZABETH BLACK LEARNING OPPORTUNITIES

White States of Public Health Concepts

As the practice of public health changes, so the education of public health practitioners needs to change. Since the 1988 Institute of Medicine report on the Future of Public Health where has been a not core services of public health. To address this need and fill the Public Health Concepts of Public Health Concepts of Public Health Concepts of Public Health Concepts in Service of Public Health Concepts in Service of Public Health Concepts in Service of Public Health Concepts of Public Health Concepts in Service of Public Health Concepts in Service



PHOTO: (from left) Michele Dry, program registrar; Hollie Pavlica, program director; and Elisabeth Constandy, the 100th graduate of the Core Public Health Concepts Certificate Program, celebrate at the fall 2005 graduation ceremony.

THE PROGRAM
HAS STUDENTS
FROM ALL 50
STATES, 12
COUNTRIES
AND TWO U.S.
TERRITORIES.

Core Public Health Concepts certificate offers students flexibility, perspective across five public health disciplines

The UNC School of Public Health's Certificate in Core Public Health Concepts, now in its sixth year, provides an opportunity for students anywhere in the world to complete a 12-credit program of study in public health without ever setting foot in a classroom.

That's because all the classes needed to earn the certificate are offered online.

Through the Internet, students are able to hear the same lectures, work on the same case studies, participate in the same individual and small-group learning experiences, and take the same exams as students who take these classes on the Carolina campus.

The curriculum consists of five courses: epidemiology, health policy and administration, health behavior/health education, biostatistics, and environmental health. It's based on key requirements specified by the Council on Education for Public Health, the independent agency that accredits schools of public health and graduate-level public health programs outside of schools of public health.

Designed for people who have worked three or more years in the field of public health without a formal degree or training in the field, the certificate program draws individuals from a variety of professions, including medicine, nursing, veterinary science, and journalism. Twenty-one percent of program participants are minorities.

"We have students from all 50 states, 12 countries and two U.S. territories, all representing a variety of professions, cultures and ethnic backgrounds," says Program Director Hollie Pavlica. "With this mix of disciplines and backgrounds, our students raise many different ideas in discussions and offer a wide breadth of perspectives."

Because they don't attend traditional classes, many students continue working full time jobs while earning certificates. This flexibility has helped increase the program's popularity. During the past five years, the number of students enrolled in the program has increased from 28 in 2000 to 276 in 2005. To date, 159 students have



"The courses were interesting and challenging and professors were friendly and available to answer guestions."

www.sph.unc.edu/nciph/certificate/

SHARON E. LOZA

DOCTOR OF PHILOSPHY CANDIDATE
UNIVERSITY OF OXFORD, OXFORD, UK



"The organization of the courses were well defined and permit individuals with active careers to pursue this certificate."

KEVIN P. MULVEY, PHD
CHIEF, PRACTICE ASSESSMENT AND APPLICATIONS BRANCH
CENTER FOR SUBSTANCE ABUSE PREVENTION
ROCKVILLE, MD



"Over the last two and a half years I have lived in six countries and accessed the blackboard learning system from at least ten different countries."

PHYSICIAN ASSISTANT
MAPUTO, MOZAMBIOUE

earned certificates from the program.

When they earn the certificate, students are a third of the way toward completing the required courses for a master's degree in public health, and many choose to continue their studies.

"A lot of people come to us first because it means less time on campus away from full-time jobs," Pavlica said. "It gives them a chance to get their feet wet."

Students may take two courses at a time, although most take one course a semester. This pace allows students to balance work and family life while committing 10 to 12 hours a week to each course. At this pace, it takes a year and a half to complete the program.

Dr. Lorraine Alexander, clinical assistant professor in the School's Department of Epidemiology, has worked with the certificate program from its inception and co-teaches an epidemiology course for the program.

"Faculty work hard to keep online classes structured and well-organized so that students feel comfortable and can ask questions and receive significant feedback," Alexander said. "We don't want our online students to feel isolated."

Certificate graduates speak highly of the program.

Patrick Kelley, a May 2004 certificate graduate, said he knew the program would be hard work, but the online aspect helped him balance his time.

"School was easier to integrate into my life because I didn't have to drive to and from campus," he said.

Kelley, an international security analyst at Research Triangle Institute International, earned his certificate in three years. "I think I gained a base of solid public health knowledge across the five disciplines," Kelley said. "It's made me better at work."

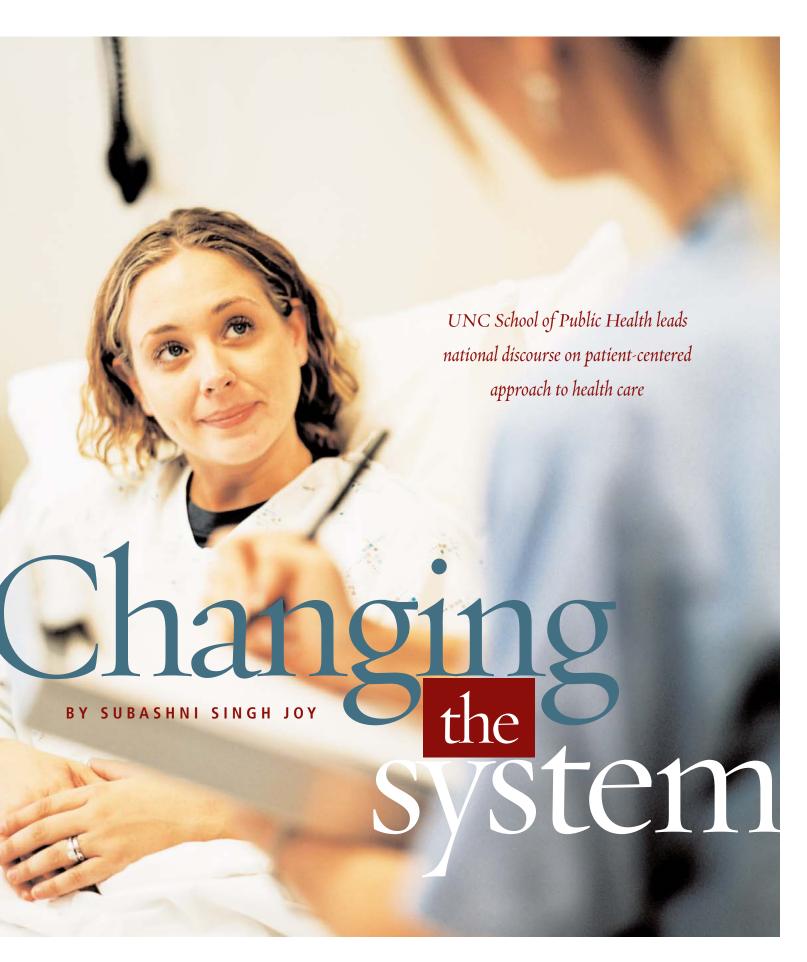
The School of Public Health's reputation, especially in epidemiology, drew Kelley to the certificate program. Like many others, he began the certificate program with an eye toward eventually pursuing a master's degree in public health.

"When you go back to school in the middle of your life, you want to do it right," he said.

Many students in the program share Kelley's assessment.

"We have extremely happy and satisfied students," Pavlica said. "We think it's a great program."

For more information on the Certificate for Core Public Health Concepts program, visit www.sph.unc.edu/nciph/certificate/.



When UNC School of Public Health alumnus Clarence Pearson's 38-year-old son, Scott, was diagnosed with cancer in March 2001, he was admitted by his family physician to one of the best hospitals in New York City, in fact, one of the best in the world, for treatment.

The facility became one of seven acute care and rehabilitation hospitals where Scott would receive various types of treatment and rehabilitation during the next seven months for malignant melanoma.

"Every time, each institution would start a new record," said Pearson, who counted 45 different physicians on his son's medical bills during the course of the last months of his life. "No one was there to oversee the continuity of Scott's treatment from institution to institution." Once Scott was admitted to the first hospital, neither Pearson nor Scott ever heard from the family physician again – even after Scott's death.

Further complicating matters was the fact that physicians were reluctant to offer options or straight answers about Scott's prognosis to Scott or his family. And even though Pearson visited his son every day, he said he met only five of the 45 physicians who oversaw his treatment. In short, both Scott and his family were excluded from information and decision-making opportunities about his care.

The experience left Pearson and his wife Laurie Norris convinced that the system needed to change. And in its place, a new way needed to be forged, one where patients and families could be informed advocates for their own care.

To advance such changes, Pearson and Norris created a special UNC School of Public Health fund dedicated to fostering patient-centered care. Over the past three years, their gift has united national health care leaders from across the country in a dialogue to develop specific ways to change the system.



Scott Pearson with his father, Clarence.

Much of this discussion has taken place at two Patient Advocacy Summits (one in 2003 and another in 2005) sponsored by the UNC School of Public Health and attended by physicians, administrators, public health practitioners, health educators, researchers, consumer advocates, lawyers, social workers, policy activists, patients and parents-turned-activist from across the country.

"Patient-centered care refers to all the ways we can help patients become partners in their own care, even when they are very sick and at their most vulnerable," said Dr. Jo Anne Earp, a professor in the School's Department of Health Behavior and Health Education, which organized the two conferences. "The healthcare system is confusing and alienating to many patients and they often have trouble tracking down good information about their illnesses. Frequently, they are not aware that they have a choice of treatments or what the consequences are of choosing one treatment over another. A patient-centered approach begins

with the assumption that when patients have full knowledge, they can make good decisions about their care that best accord with their own values.

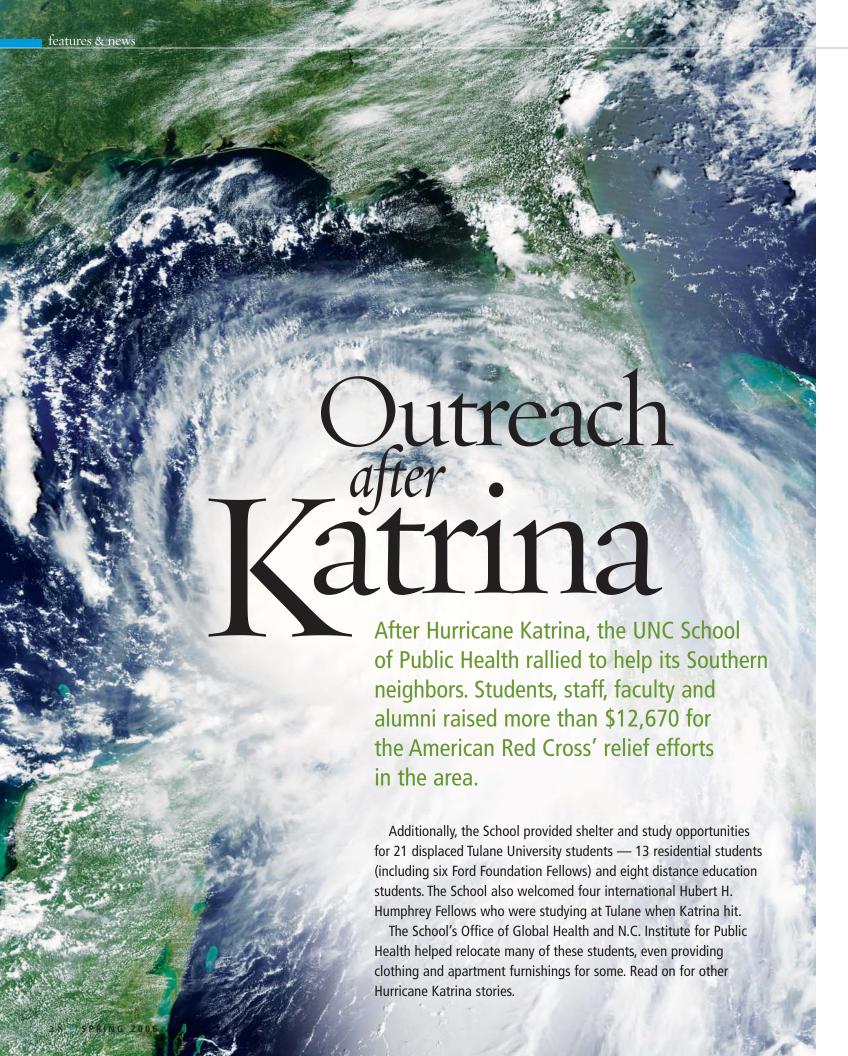
The patient-centered approach to health care covers research areas familiar to public health professionals, including provider-patient communication, patient education, health literacy and care coordination. Increasingly, however, discussions of patient-centered care encompass access to and support for alternative therapies, the value of online support groups, and even the ways a hospital's architecture can promote patients' health and well-being. None of these are applicable, however, if people cannot access care when they need it. Thus, policy-level factors feature prominently in advocacy discourse and were the subject of extensive discussions at the 2005 conference.

Participants at the 2005 conference also discussed early drafts of papers that conference attendees had submitted on topics such as e-health, community activism and health communication. The papers helped conference participants define what is known about health advocacy and outline questions still needing answers.

Earp and other UNC researchers are now collaborating with academics and practitioners from around the country to develop a textbook on effective health advocacy based on the conference papers.

The book will be geared toward physicians and graduate students pursing public health master's degrees and will highlight what patients are already doing to take control of their own care and how providers can help.

"We have a fractured medical care system," said Elizabeth French, who coordinated both conferences and is an editorial associate in the School's Department of Health Behavior and Health Education. "We believe that one of the best ways to improve the system is through the pressure of effective advocacy."



Lessons learned in UNC Schools of Public Health and Medicine prepare physician to respond in Hurricane Katrina's wake

As the water from Hurricane Katrina was rising outside Touro Hospital in New Orleans, several medical workers tried to convince Dr. Richard Vinroot to give up on the stroke victim he was trying to save. The woman needed a tube inserted down her trachea so she could breathe, and there was no anesthesia, no electricity, nothing at all except the doctor's hands and the plastic tube.

"I almost was not able to get the tube down her trachea," Vinroot says. "Some of the others said, 'Rich, you've got to let her go,' but I just couldn't. And eventually I was able to insert the tube so she could breathe. The next day, we got her out on a helicopter, and now, she's somewhere in Houston, and she's alive."

Vinroot, a graduate of the University of North Carolina at Chapel Hill Schools of Medicine and Public Health, was a secondyear emergency room resident at Charity Hospital in New Orleans when Hurricane Katrina roared into the city Aug. 29, 2005.

"I was off the day the storm hit, staying with some friends," he says. "They evacuated, but I decided to stay and see what I could do to help. I went to Touro Hospital because it was near my house."

About 200 patients were in Touro when Katrina struck. Doctors, medical staff and other hospital workers tended to them as best they could without electricity, water or most of the modern medical equipment they had previously taken for granted.

"It really became a scary situation," Vinroot says. "Every day, the water got higher and there was less and less help as people left to deal with their own families. You couldn't blame them. We were evacuating people as fast as we could, but we were carrying some people down nine flights of stairs because there were no working elevators. Everybody pitched in — even the security guards and cafeteria workers."

Eventually, all the patients were evacuated from Touro Hospital. Vinroot, however, was evacuated to Baton Rouge, La., to work



Dr. Richard Vinroot tends to a patient in a tent hospital set up at the New Orleans Convention Center following Hurricane Katrina.

triage. However, he couldn't get the people of New Orleans out of his mind. So he hitched a ride back to the waterlogged city via a medical convoy and proceeded to provide medical treatment to patients waylaid at the Superdome and the airport. Later, he joined the city's search and rescue effort.

"I think I was better prepared than most of the people I was working with to face a situation like this because of my training at the (UNC) School of Public Health and the Med School," says Vinroot. "A lot of managing health care in a disaster is taking a team approach, and knowing you need to integrate with the military, local public health officials, local sanitation officials. This is not just a doctor/patient, one-on-one situation — we all have to work together."

Vinroot is one of an increasing number of medical students who earn a master's degree in public health (MPH) as well as a medical degree (MD). Most earn the MPH in Health Care and Prevention, offered through the School of Public Health's Public Health Leadership Program (www.sph.unc.edu/phlp/).

"About 20 percent of the UNC Medical School students are now getting their MPH along with their MD," says Dr. Russ Harris, professor of medicine in the School of Medicine and adjunct professor of epidemiology in the School of Public Health. "It helps them understand the needs of an entire population, as well as the needs of individual patients. That's what Rich was able to do so well in New Orleans. Putting the two degrees together is great preparation for a life of service."

Vinroot, 35, first graduated from UNC-CH in 1993 with a bachelor's degree in Southern History. He then went back to his hometown, Charlotte, N.C., and worked as a portfolio manager.

"But I just wasn't happy," he said. "I had always wanted to be a doctor. I just hadn't had the self-confidence to go for it." But with encouragement from his father, Richard Sr., former mayor of Charlotte, and his mother, Judy, a public school teacher, he went back to school. He completed his MD in 2003 in Emergency Medicine, and his MPH in 2004 in Health Care and Prevention, with a Global Health Certificate.

Following Hurricane Katrina, Vinroot says he tried to return to his residency program at Charity Hospital, however the state closed it. He then went to work in New Orleans' convention center military tent hospital, and, when needed, took on ambulance and medical helicopter shifts and shifts at a clinic across the Mississippi River.

Since it is unlikely Charity Hospital will reopen, Vinroot says he'll have to find somewhere else to finish his Emergency Room residency. However, he looks beyond these immediate problems and sees the big picture.

"So many people lost everything in this storm," Vinroot says. "I was lucky – I gained a thousand times more than I ever lost. And I keep thinking about how we'll do it better next time, wherever that is. And I know this will happen again somewhere, and I'll be there."

- By Ramona DuBose

Saving dogs, cats — and alligators? Pets and livestock all part of disaster management

Bill Gentry knew he'd be helping rescue dogs, cats, horses, and some cattle as the coordinator for volunteer animal rescue in Mississippi following Hurricane Katrina. He also wound up helping rescue donkeys, rabbits, iguanas, chickens, geese and ducks as well. But alligators?

"I'm not sure where the two alligators came from," said Gentry, a veteran of numerous disaster management relief efforts and the director of the community preparedness and disaster management program in the department of health policy and administration at UNC's School of Public Health, "but we're pretty sure they weren't pets."

Gentry led a 12-person team from North Carolina in coordinating the delivery of supplies, medicine and veterinary care to Mississippi animal shelters and clinics impacted by the storm. The team also managed delivery of the donated goods that arrived from around the country, including dog and cat food, bales of hay and even fencing.

"People have been overwhelmingly generous," said Gentry, a former state emergency management official. "We had palette upon palette of donated supplies."

Gentry and his team were called to Mississippi as part of a cooperative effort among states to assist each other with disaster relief. Called SART (State Animal Response Team), the group consists of animal experts, including veterinarians, and typically provides relief for 10 to 14 days. North Carolina has been a national leader in animal rescue disaster manage-

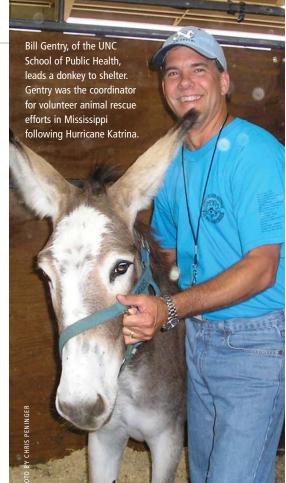
ment, thanks in large part to Gentry's training programs. But it's never easy.

"We were fortunate that volunteers from other neighboring states came in before us and helped out," said Gentry, "but there was still plenty of work for us to do."

Gentry said the biggest challenge was exhaustion. Many of the animal rescue volunteers worked non-stop.

Nearly 1,000 animals were rescued and placed in temporary shelters, where they stayed until they were recovered by owners or placed for adoption. The SART team also helped veterinary clinics impacted by the storm reestablish their practices.

"Some the clinics were completely devastated," Gentry explained, "and so a temporary facility had to be set up for them. In other cases, the structure itself wasn't damaged, but the practice was disrupted because customers had fled before the storm. The aftereffects of the storm are just enormous."



Gentry said it's personally satisfying to assist in the animal rescue side of disaster management, in part, because of the immediate impact.

"It's very rewarding to see people reunited with their animals," said Gentry. "There's an immediate return on the work that you're doing that is often unique in disaster situations."

The work can also get personal in ways a veteran disaster management professional doesn't anticipate. During Hurricane Dennis, Gentry befriended a 2-year-old Dalmatian and later brought it home for adoption.

But even volunteers like Gentry have their limits.

"Before I left for Mississippi, my wife said, "Honey, be safe and come home soon. But don't bring back any more animals, please."

- By Gene Pinder

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Incubator projects help counties share ideas, resources to improve public health

Tobacco is banned on school campuses in four North Carolina counties, thanks to programs started by local health departments who shared their ideas and pooled their resources to develop an anti-smoking campaign for youth in their areas.

The "Touch No Tobacco (TNT)" initiative was a cooperative effort undertaken by North Carolina health departments working in conjunction with the UNC School of Public Health's North Carolina Institute for Public Health — the service and outreach arm of the School, and the North Carolina Division of Public Health. The TNT project, which is funded by the North Carolina Health and Wellness Trust Fund, is one of several "incubator" projects coordinated by the Institute.

The two-year-old incubator initiative, funded this year with \$1 million in recurring funds from the North Carolina General Assembly, develops voluntary partnerships among local health departments and public health stakeholders to



PHOTO: (left to right) Crystal Dempsey, Youth Tobacco Prevention Coordinator; Northampton High School East students Melva Lowe and Quante Wilder; and Northampton High School West students Keaundra Robinson, Adren Underdue, and Keith Moody present tobacco prevention information to the Northampton County School Board.

establish and enhance essential public health services, particularly for under-resourced counties.

"The incubators provide an extremely effective way for counties to share ideas and help each other find resources for programs like

'Touch No Tobacco'," said Leah Devlin, N.C. State Health Director. "The result is that, working together, we can do more to protect and improve public health in our state."

Last year, the incubator initiative provided grant-writing resources for county health department workers in 11 North Carolina counties that allowed them to successfully pursue funding from the North Carolina Health and Wellness Trust Fund to develop tobacco use prevention and cessation projects in their schools.

The counties used these funds to launch the "TNT" initiative among high schools (19) and middle schools (26) in their counties. Youth involved in the TNT projects in Currituck, Dare, North Hampton, and Warren counties convinced their county school boards, through lively presentations, to adopt tobacco-free policies on school campuses. The other counties participating in the TNT project are Beaufort, Bertie, Camden, Edgecombe, Hyde, Martin, and Pasquotank.

"This is an example of counties coming together as an incubator and leveraging state funds to secure additional funds," says John Graham, the project's coordinator and the

deputy director of the Institute, which manages the funds for the TNT project and will later coordinate an evaluation of individual incubator projects as well as an evaluation of the overall initiative. in the initiative. Sixty-five of the state's 100 counties have joined incubators, including nearly all of the poorest counties.

"These incubators represent an exceptional opportunity to strengthen public health

"The incubator initiative is an innovative approach that brings underserved counties together to pool resources and strengthen existing services or introduce new essential services."

The incubator initiative unites counties so they can share ideas and resources and also collectively apply for grants.

"As a group, they have more resources to develop grant proposals and they are also more attractive to funding agencies," Graham says.

Presently, five incubator groups ranging in size from eight to 19 counties are participating

infrastructure from the ground level, and the Institute is delighted to be working with local health departments and the North Carolina Division of Public Health to foster greater collaboration and a more efficient and effective use of resources," says Dr. Ed Baker, the Institute's director.

"Part of the uniqueness of this project is its

cross-county collaboration," Baker adds. "There is nothing like it anywhere else in the country."

Over the last year, several incubator projects have addressed aspects of North Carolina's public health accreditation initiative to assure that health departments have the capacity to provide consistent essential services. Others have surveyed and evaluated billing and information system policy and procedures and are now introducing best practices across member agencies. A standard approach to community assessment, a new employee orientation, and a CD-based board of health orientation — all developed by the incubators — are presently being piloted and later will be made available to incubator members and to North Carolina's health departments more generally.

"We believe the incubator slogan "Better Together" is born out in the results of incubator activities over the last year," Graham notes. "We expect these collaborative efforts to grow stronger in the coming year."

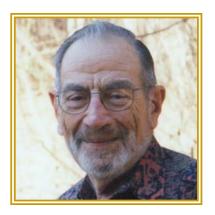
For more information on the North Carolina Institute for Public Health, visit their Web site at www.sph.unc.edu/nciph.

OPPORTUNITIES TO INVEST

NEW SCHOLARSHIPS

at the UNC School of Public Health

Making a Difference: Okun provides scholarship gift to support promising engineering students in their studies



DR. DANIEL A. OKUN

Growing up in Brooklyn, N.Y., Dr. Daniel A. Okun began his career at the early age of 12.

Okun, now Kenan professor emeritus of environmental engineering at the UNC School of Public Health, watched his father supervise the engineering of a massive tunnel to transport water from the Delaware River to New York City and its residents. Located about 600 feet below the city, the tunnel held a strong attraction for young Okun — an attraction that endured. He went on to become one of the world's premiere civil and sanitary engineers, collaborating on hundreds of water supply and sanitary engineering projects in some 90 countries worldwide.

Later in life, Okun said he took his young son to see a water tunnel in Connecticut. It must not have had the same effect, he said, laughing: "He's now a lawyer."

Okun's contributions to UNC

through the years have been substantial on multiple levels. He joined the Department of Environmental Sciences and Engineering faculty in 1952, serving as department chair from 1955 through 1973. Under his guidance, the department was transformed from a traditional sanitary engineering program into a prestigious environmental engineering program. He helped implement a departmental doctoral program and recruit faculty to the department, increasing the number of professors from three to 25.

Today, he remains active in departmental and professional activities — conducting research and lecturing under the banner of UNC, despite having "retired" in 1982. A world map in his home study is filled with 149 pins, each marking a location in which he has worked.

"Professor Okun has served and continues to serve as one of the leading global luminaries on environmental sciences and engineering issues related to water and sanitation in developing countries, drinking water source selection, and water reuse," said Dr. Casey Miller, professor of environmental sciences and engineering at the UNC School of Public Health. "Additionally, he was the leading figure in the interdisciplinary development of our department, now regarded as one of the best programs worldwide in this area of scholarly endeavor."

Okun's departmental contributions and leadership extend beyond his chairmanship. Through the years, he also has provided generous financial support for the department. He and his wife Beth recently contributed \$200,000 to enhance the Dan Okun Scholarship Fund, established by alumni and friends upon his retirement. The scholarship is to recruit and support promising master's level environmental engineering students. Okun's recent contribution helps offset increases in tuition and living expenses that have occurred since the fund was established. Scholarship recipi-



ents will now receive approximately \$20,000 a year.

"In order to recruit the best graduate students, we have to entice them just like they do in the basketball program," Okun said. "We have to compete with the best schools to recruit the best candidates."

Others also have given to the department in Okun's name. In 1994, faculty colleagues and former students launched a campaign to establish an endowed professorship in his honor. Dr. Philip C. Singer now holds the position of Daniel A. Okun distinguished professor of environmental engineering, officially established in 1999.

When asked, Okun said he is most proud of his role in helping assure that UNC and the surrounding community of Chapel Hill would have a source of high-quality drinking water, adequate to supply the community's burgeoning population.

In 1952, University Lake, was the only water supply for the town, and, by extension, the university, which owned the water system. However, the university was growing so fast, Okun realized a new water source would soon be needed.

"Dan's gift helps continue an 80-plus-year tradition of engineering education at Carolina."

At the time, the University's Board of Trustees was making plans to obtain additional water from the Jordan Lake reservoir, under construction nearby. But water for this reservoir would receive wastewaters from large urban and industrial communities upstream, making it a poor drinking water source.

"I didn't want to use the Jordan reservoir water," Okun said. "It's best to start with clean water." Okun convinced the Board of Trustees to abandon Jordan Lake and endorse the construction of a new reservoir with a well-controlled watershed to prohibit development and maintain water purity. The Cane Creek Reservoir, as it came to be known, now holds four times the water of the city's original source.

"It took time to build the dam, but now we are assured of having water of high quality for the foreseeable future," Okun said, smiling. With Okun's recent gift to the department, the School can continue to recruit the most promising students to the engineering field.

"We are extremely grateful to Professor Okun for his continuing generosity," said Miller, who served as chair of the department from 1999 through 2005. "His gift helps continue an 80-plus-year tradition of engineering education at Carolina."

To contribute to the Okun Scholarship Fund, make check payable to "The School of Public Health" and designate "Okun Scholarship." Mail gifts to the: UNC School of Public Health, Office of External Affairs, CB #7407, Chapel Hill, NC 27599-7407. For additional information on the Dan Okun Scholarship, contact Charlotte Parks at (919) 966-7612 or charlotte_parks@unc.edu.

Maternal and Child Health Scholarship established in memory of School Alumna Dr. Katherine Ann Wildman



DR. KATHERINE ANN WILDMAN

Focused. Bright. Beautiful. Generous spirit. Fearless world traveler. Playful heart. Dr. Wildthing.

Those are a few of the words and phrases that friends and family use to describe Dr. Katherine Ann Wildman, a maternal and child health alumna of the University of North Carolina at Chapel Hill's School of Public Health who died unexpectedly on Nov. 23, 2003, in her home in Paris. She was 35.

At the time, Katherine was working in an epidemiological research unit of the Institut national de la sante et de la recherché medicale (INSERM) on national indicators

to monitor European perinatal health. INSERM is a French governmental institution dedicated to biomedical and public health research. She leaves behind two young daughters, Savannah and Mireille; her husband, Geb Berry; her parents, Jack and Peggy; and a web of friendships that span the globe.

"Katherine was a shining example of what was best about our class. She brought to our program a wealth of experience, a commitment to women's health, a love of learning and an openness to new ideas," said Dr. Melissa McPheeters, a close friend of Katherine's and a 1996 alumna of >>>

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OPPORTUNITIES TO INVEST

▶ the School's Department of Maternal and Child Health. "We really lost an important member of our community. She was phenomenal."

Katherine's example inspired family and friends to establish a scholarship in her memory. The Katherine Ann Wildman Memorial Scholarship in Maternal and Child Health goes to outstanding graduate students with a demonstrated commitment to the study of maternal and child health.

Gynaecology and the European Journal of Obstetrics & Gynecology.

Katherine's interest in other cultures and the field of public health began early. High school friends remember her telling them that she wanted to live and work in Africa. And indeed, she did — moving to Harare, Zimbabwe, in 1990 following graduation from the University of Virginia where she earned a bachelor's degree in international relations. There, she lived and worked for 18

"Part of what Kath did so beautifully was to meet every individual on their own path. She didn't ask the people she loved to be like her - she enjoyed them for who they were."

Emily Bobrow, the first recipient and a doctoral candidate in the Department of Maternal and Child Health, was awarded the \$1,000 scholarship for the 2005-2006 academic year at a departmental reception at the School's Fred T. Foard, Jr. Memorial Lecture last April. She plans to use it to support her dissertation fieldwork in Malawi where she is researching factors influencing whether pregnant HIV-infected women choose to participate in mother-to-child transmission research (and thereby disclose their HIV status — an act which often leads to violence or abandonment).

"This is a living memorial to Katherine and provides an opportunity to carry on the work that she was committed to," McPheeters said of the scholarship.

Katherine's focused belief in herself buoyed her through the rigor and exhilaration of academia. She earned her master's degree in maternal and child health from the School in 1996 and completed her doctorate in maternal and child health from UNC in 2001 soon after the birth of her first daughter. She went on to publish articles in scientific journals including the *British Journal of Obstetrics and*

months as a volunteer with Visions in Action, and afterwards, with friend Lucy Carlson, traveled throughout Zimbabwe, Malawi, Tanzania and Kenya.

After this trip, Katherine accepted a position at John Snow, Inc., where her reproductive health work regularly took her to Bangladesh and other developing countries.

"Katherine was unique in her focus and in her belief in what she was doing," said her brother, John. "She just always knew what she wanted to do."

Katherine's quiet determination was apparent to others even when she was a child, her father said.

"One Christmas when she was about seven or eight she received a pogo stick as a gift," he said. "She fell off it several times when first trying it out and after that, made the decision that she was going to practice it for 30 minutes every day and in less than two weeks time, there wasn't a thing she couldn't do with that pogo stick."

But it wasn't just Katherine's focused attention or her playful heart that endeared her to others. It was the way she appreciated and cherished her friends.

"Katherine was very committed and loyal

to her friendships," said Dr. David Becker, an alumnus of the School and a friend of Katherine's. "She had a very easy-going demeanor about her that engendered trust, and she was thoughtful and intuitive without being imposing."

McPheeters echoed these sentiments: "Part of what Kath did so beautifully was to meet every individual on their own path. She didn't ask the people she loved to be like her – she enjoyed them for who they were...She created safe space around each and every relationship she had."

Those wishing to make a contribution to Katherine's scholarship fund should make their checks out to "The School of Public Health." In the memo section, write "Katherine Wildman Scholarship." Mail gifts to the: UNC School of Public Health, Office of External Affairs, CB #7407, Chapel Hill, NC 27599-7407. For additional information on the Katherine Ann Wildman Memorial Scholarship, contact Charlotte Parks at (919) 966-7612 or charlotte_parks@unc.edu.

Create a scholarship and the opportunity of a life-time

Scholarships are critical for many students who want to come to Carolina. And they are essential for recruiting the brightest and most passionate students. An in-state graduate student pays \$5,875 a year for tuition, and one from out of state pays \$19,116 annually. When living expenses are added, the cost can be prohibitive or offers from other schools can look too good to refuse. The scholarships mentioned in this issue will help make it possible for generations of students to come to Carolina. You can create one, beginning at \$20,000 and give students the opportunity of a life-time. Contact Lyne Gamble at (919) 966-8368 or lyne_gamble@unc.edu.

Epidemiology alumna honored: Scholarship established in memory of 2004 Graduate Dr. Rebecca James Baker



DR.REBECCA JAMES BAKER

Dr. Rebecca Baker, beloved friend, colleague, wife and family member — and 2004 alumna of the UNC School of Public Health's Department of Epidemiology — died suddenly on Aug. 8, 2004, of a pregnancy-related heart condition. She was 33.

Rebecca's graduation from the School in May 2004 was the capstone of a distinguished academic career. After earning a bachelor's degree in biology from Brown University, she lived in Russia while teaching English. She returned to the United States to earn a master's degree in public health from Harvard University and then a doctorate from Carolina's School of Public Health. As part of her graduate work, she moved with her husband to the Czech Republic. When she died, she was working as a principal epidemiologist at GlaxoSmithKline (GSK) in Research Triangle Park, N.C.

"Becca faced her life challenges with great confidence," her husband, Jeffrey Baker, said. "She had an amazing ability to weigh all points before making any decision, so there were no unforeseen circumstances to fear. She was always there for others, too — supporting friends with their decisions, and helping them conquer their fears."

Lynne Sampson, a UNC classmate of Rebecca's said, "Rebecca enlightened others with what she learned from the places she visited."

Rebecca's ability to enlighten and help others was demonstrated when she taught a

difficult methods class in the Department of Epidemiology as a doctoral student. She was known as a teaching assistant who would find a way to reach every student, no matter how much help was needed. Rachel Williams, a classmate and close friend, said, "Rebecca had a passion for learning and was a terrific teacher. She had the wonderful ability to reach her peers through her description and interpretation of the subject."

Rebecca's special interest was in environmental health, particularly how children are affected by pollution in Eastern Europe. "Rebecca cared about the 'big picture' of public health, and environmental and reproductive health exposures have this sort of broad impact," Hall said. Her work at GSK was in respiratory health. Many friends believe she would have gone on to become a professor one day.

energy and it made every conversation with her have more meaning."

In Rebecca's memory, friends, family and colleagues have created the Rebecca James Baker Scholarship in Epidemiology to benefit a student from her home department. The award will be given to "worthy doctoral students who have demonstrated commitment to the study of epidemiology" at the UNC School of Public Health.

"This scholarship is a tribute to her enthusiasm for epidemiology and the value she placed on education," Williams said. Sampson added, "It is a perfect way to remember her because her academic achievements were very important to her, but they had barely begun. A scholarship in her name will serve to help other students on that same journey, and she would have liked that."

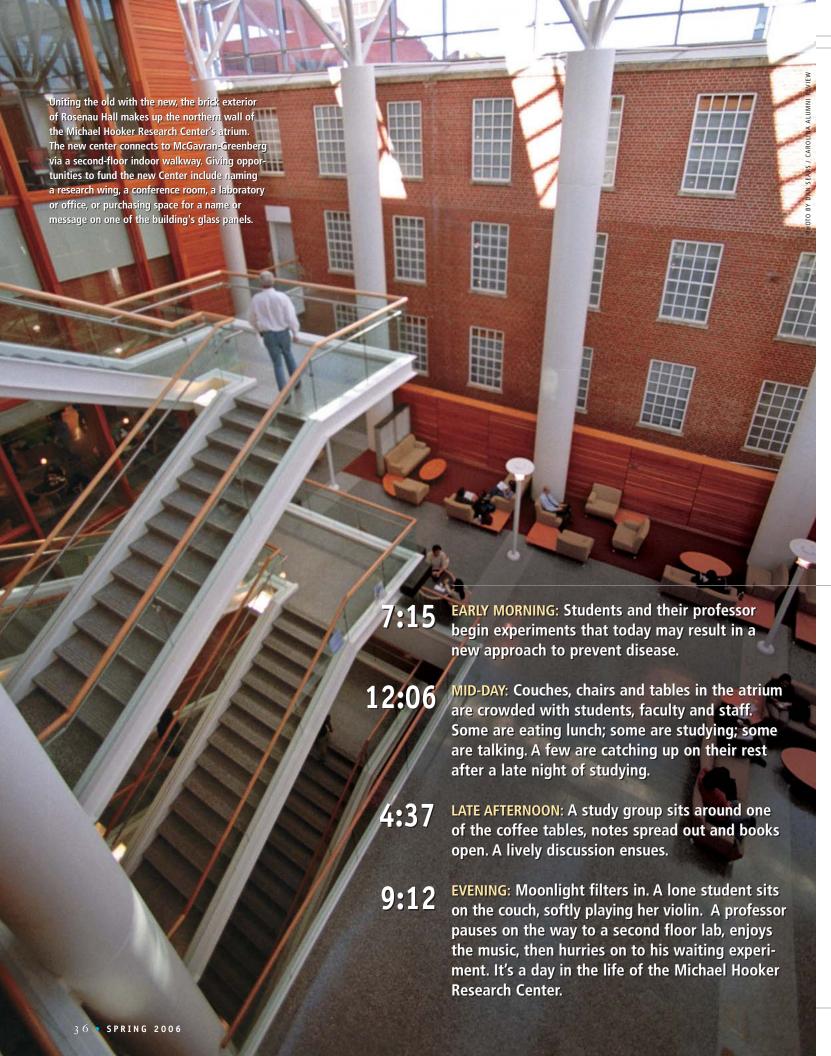
In addition to her husband, she is survived

"She had the wonderful ability to reach her peers through her description and interpretation of the subject."

Beyond being an outstanding scholar and dedicated public health professional, Rebecca was known as a warm, devoted friend, cherished by those who knew her. Her funeral in Chapel Hill, N.C. was attended by members of her family, friends from early childhood, classmates from years at Brown, Harvard and UNC, associates from her international experiences, and new colleagues from GSK who came to show their love and appreciation for her friendship. She was remembered as one whose incredible resourcefulness was strengthened by "dignity and kindness." As her husband's eulogy said so eloquently, "She was truly loved by all and she deserved every bit of that love. It wasn't just that she listened to people — she heard them; she gave them by her mother, Mary Ellen James; her father, Jonathan James; her grandmother, Rose Quinto; and two brothers, Christopher and Nathan James. She also leaves several extended family members, and friends from all areas of her life.

Those wishing to make a contribution to Rebecca's scholarship fund should make their checks out to "The School of Public Health." In the memo section, write "Rebecca Baker Scholarship." Mail gifts to the: UNC School of Public Health, Office of External Affairs, CB #7407, Chapel Hill, NC 27599-7407. For additional information on the Rebecca James Baker Memorial Scholarship, contact Charlotte Parks at (919) 966-7612 or charlotte_parks@unc.edu.

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New heart of the School full of activity, but not fully funded

The parking lot is gone. So is the old biostatistics trailer, long a School icon for collegiality, innovation and dedication.

In its place is the high-tech, sleek, functional and friendly Michael Hooker Research Center, which is fast becoming the heart and crossroads of the Carolina School of Public Health. The laboratories and conference facilities are state-of-the-art. The sun-lit atrium is warm and bright. The furniture invites conversation and collaboration.

The modern laboratories and high-tech systems give researchers, teachers and students tools necessary to conduct their public health work using the highest standards and most cutting-edge methods.

"These new laboratories rival any in the country and enable our faculty and students to discover important breakthroughs that will make a difference in people's lives," says Dr. Steven Zeisel, associate dean for research at the School. "People in North Carolina and across the world will benefit from our work in these labs and our ability to apply it to change behaviors."



Make your mark by purchasing space for a name or message on one of the Center's glass panels.

The Michael Hooker Research Center is designed to create interactions that facilitate cross-disciplinary collaborations. "This interaction is the essence of the university. It is also an example of how the built environment influences those within it," says Dr. Barbara K. Rimer, dean of the UNC School of Public Health. "Our faculty members, staff and students are thrilled to be working in this modern research facility, and I keep hearing how wonderful it is to have a place for interactions outside of class. It's almost hard to believe we existed without this space!" >>>

OPPORTUNITIES TO INVEST







The building's beautiful, but the debt's still there

Even though our new building is in full use, we have not finished paying for it. We are working hard to raise the remaining \$5 million needed to complete the \$38.5 million project. Like any homeowner with a mortgage, we will be charged hefty interest fees every year in which debt remains. These payments will impair our ability to start new initiatives and even could threaten established programs.

Invest in this transformational building and leave your mark on the School by adding your name or someone's you wish to honor to a research wing, laboratory or other area of the new building. Your investment is a share in improved health, a powerful, lasting legacy—and that, after all, is what we are about. Following is a partial list of the many naming opportunities within the Michael Hooker Research Center. We hope there is one with your name on it — or the name of someone you wish to honor.

\$1.5 million – Research wing

You can make a difference by investing in a research area that excites you or that you care about. Maybe you are concerned with restoring contaminated environments, finding new genes that increase the chances of getting cancer, or discovering the connection between a person's diet and viral infections. Add your name or a name of your choice to the laboratories and offices dedicated to that particular area. We will give you regular updates on what the laboratory is doing, and we could also arrange lunch and a tour by the research team.

\$1 million - Patio and Entrance to UNC School of Public Health

Leading to the new main entrance of the School, the bricked area in front of the Michael Hooker Research Center greets all who enter and provides an attractive area for informal and formal gatherings. The prominence and attractiveness of the area make it an ideal place to remember or celebrate someone by naming it.

The special benefits of naming include:

- Knowing that you're making a difference in improving the public's health
- For named laboratories and faculty offices, opportunities for regular reports and briefings from the research team
- Mention of the laboratory name in publications and reports
- Special invitation-only events on the state of the School and public health
- Individualized reports on your investment
- Other opportunities for involvement, based on your particular interests and concerns

To explore naming opportunities, to tell us more about where you would like to make an impact, or to tour the new building, contact Charlotte Parks (919) 966-7612 or charlotte_parks@unc.edu or visit www.sph.unc.edu/philanthropy.

\$200,000 and \$100,000 -Conference rooms

The building's seven wonderful conference rooms are designed to promote discussion and stimulate thinking. Many of the ideas that are born in these rooms will blossom into exciting new programs, research or collaborations to address the most urgent public health issues. Imagine your name or the name of someone you wish to honor on one of these conference rooms, and soon we'll hear, "Meet me in the *'your name here'* room and we'll work on that together."

\$150,000 - Research laboratory

Promote research in a particular area by supporting and naming a laboratory in the Michael Hooker Research Center. That's what Professors Emeriti Drs. Charles and Shirley Weiss did when they created the "Weiss-Kuenzler-Wetzel Environmental Sciences Laboratory." "I thought it would be nice to identify the University's lineage of limnology," said Dr. Charles Weiss who was the first aquatic biologist (now limnologist) on the UNC faculty. The late Dr. Edward Kuenzler was the second aquatic biologist to join the faculty and the late Dr. Robert Wetzel became the third.

\$25,000 - Faculty offices

Faculty offices provide space where professors and researchers write grants and manuscripts, analyze research data and mentor students. You could name one of these important spaces.

\$2,500 – Glass panel

Purchase an entire 3' x 5' glass panel in the atrium to inscribe a name and a message. Look at the panels already inscribed, and you will see tributes to parents, children, mentors, colleagues and others who have contributed to or supported public health. And the location is ideal for reminding all who come to our School of the lasting impact these individuals have had in our state, nation and world.

\$500 - Portion of a panel

Purchase space for a name and brief message totaling up to 65 characters on a portion of a 3' x 5' glass panel.



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"YOUR GIFTS ARE INVESTMENTS AND WE THANK YOU FOR EVERY ONE OF THEM. The return on your investment will be far more than the gratitude of public health researchers, teachers and students, though you will have that in abundance. Your return will be solid information on your gift's impact — discoveries made, students trained, publications made possible, clinics supported, lives touched and the public's health transformed. You will know that your gift — your investment — has made a difference in the protection of the world's health and America's future."

- DEAN BARBARA RIMER

School of Public Health JULY 1, 2004 TO DECEMBER 31, 2005

This list was prepared with utmost care to try to ensure its accuracy. If you have any qustions or comments about the honor roll, please e-mail them to sphdonors@unc.edu

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Dean Barbara K. Rimer with Kelly B. Browning, Executive Vice President of the American Institute for Cancer Research (AICR) at the August 2005 dedication of the Michael Hooker Research Center. The AICR - World Cancer Research Fund Institute for the Advanced Study of Diet, Nutrition and Cancer, funded a second-floor wing in the new building dedicated to researching the role of diet and nutrition in the causes, prevention and treatment of cancer.

Ruth Woody Brannon

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Honoring a professor, providing a future



Mark Merrill, MSPH, 1984 Health Policy and Administration

MARK AND TERI MERRILL HELPED SET UP A SCHOLARSHIP in honor of Dr. William Zelman, professor of health policy and administration at the UNC School of Public Health. "Dr. Zelman epitomizes the graduate professor — smart, engaged, talented and challenging," Mark said. "Equally important, he is also a mentor, colleague and friend to hundreds of students and professionals who have been fortunate to have shared his expertise and kinship."

Make a difference -- honor a professor. Complete the enclosed gift envelope and invest in the area of public health that is most important to you, and we'll make it happen.



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"The UNC School of Public Health is a rich environment where student organizations like the Minority Student Caucus serve as a vehicle for change and one in which students can make real contributions to the public health community. I feel fortunate to have taken part in not only the Caucus, but in the School's overall effort to create a better and more diverse cadre of public health professionals."

MAYRA ALVAREZ MHA, 2005 Department of Health Policy and Administration

Karen Tager Rivo Malcolm Clive Roberts Grace & Joel Roberts William Robinson & Katherine Magnuson Eric Alan Rodgman Daniel M Rosenberg Eris Hamrick Russell William & Donna Rutala Stephanie Ann Sabatini Carol Wendt Sackett Nat H Sandler Catherine Crossman Sanford Mary Mann Sappenfield Sara Moir Sarasua Susan & Peter Saviteer Lucy Paustenbaugh Savitz Daniel Solomon Schechter Amy Fox Schmitzer Patricia Gail Schnitzer Ernest & Mary Schoenfeld Dina Maria Schreinemachers Jane Clowney Schroeder Richard Schulz & Marcia Coster-Schulz Phyllis Colangelo Schwartz Anisa Scott Christian Iosef-Benedict Setzer Carol J Shannon Eugene B Sharpe Lynn Roberta Shemanski Aundra N. Shields Chuan-Feng Shih & Yi-Wen Ma Denise Diane Shortino Tamara Tickel Shusterman Linda Simoni-Wastila Jill Jeanine Skrezyna I McNeill Smith Ir Claudia May Smith Leonard Smock & Ellen Gilinsky Marlene Smurzynski Anonymous Jack Andrew Soyak Carol Kozlowski Spangler Yvonne Hebert Sparling Edwin M Speas Jr Steven George Speil Robert Spirtas C Jean Spratt Laura Marie St Martin Valerie Lewis Stallings

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When you support a professorship, you make a strategic investment. For a gift of \$333,000 towards a professorship, the State matches every dollar with 50 cents, that's a net \$500,000 investment in one of the best public health facilities in the world. Each faculty member directly reaches hundreds if not thousands of students, conducts research that may well reach millions and millions of people and serves people across North Carolina and around the world. The state also offers matches at higher levels.



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"Knowledge of the sectors of Public Health has been, for hundreds of years, and continues to be, extremely important. Education in these areas should be expanded and promoted. By funding scholarships and establishing professorships, this goal can be advanced."

DR. JOAN HUNTLEY Adjunct Professor, Epidemiology MPH, 1962, Epidemiology PhD, 1970, Biostatistics Cathy Jean Bradley Elouise Bray Daniel Bree Michelle Ruth Bressler Katherine Mary Brett Louise Annette Brinton Margie Britnell Heather Rae Britt Dorothea Smith Brock David Thomas Brown Christa Kelly Brown Steve & Kimberly Browning Alice Ross Bruning Wendy Sims Bryant Julian & Jane Bryttan Ronald Paul Burakoff Dorothy & Hugh Burford Elizabeth Doan Bushell Mariana Byrd Devora Campbell Matthew James Campen Blanche Capel Martha L Carlson James Berry Carpenter Jr Patricia & Steven Cartwright Marlene Orr Carver Jennie Stout Case Aimee Lenhart Cassulo Judith Gillooly Castranio Bonnie Lou Cates Miriam Phillips Cauthen Terrell & Janet Chalker Ianella Fave Chapline M Brett Chapman W Adrian Chappell Luenda Esther Charles Anita & Clyde Chesney Mary Anne Chillingworth Michele Nicole Clark Maurine G Claver Robert & Helen Clawson Jr Sarah Catherine Clegg Marjorie McKnight Clements Becki Cleveland W Gerald Cochran Genevieve Lowry Cole Margaret Sophia Conklin Linda W Cook Emily Rose Miller Cooper Amy Lynn Corneli Donna E. Cornwall Mary Phelps Cowhig Donna Lynne Cragle

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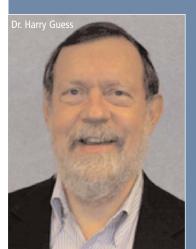
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Scholarships provide a living legacy

HARRY GUESS RECOGNIZED THE IMPORTANCE OF STUDYING WHEN AND HOW AND WHY PEOPLE BECOME ILL. The patterns that emerge from this study often provide the fundamental clues needed to improve the health of entire populations. Dr. Guess was renowned worldwide for his contributions to the field of epidemiology, particularly for his work involving use of medicines.



After a courageous battle with lung cancer, Harry Guess died on Jan. 1, 2006. He was a revered and beloved professor of epidemiology and biostatistics at the UNC School of Public Health and of pediatrics at the UNC School of Medicine. He was 65.

Two scholarships established at the Carolina School of Public Health in his memory will provide a living legacy to his work. One is the Harry Guess Scholarship in Epidemiology, established by his family and friends. Another, the Harry A. Guess — Merck Scholarship in Pharmacoepidemiology, has been created by Merck Research Laboratories and his friends and colleagues there.

Dr. Guess directed the UNC – GlaxoSmithKline Center of Excellence in Pharmacoepidemiology and Public Health within the UNC School of Public Health. The center was created to prepare graduate students for careers addressing medication

safety and effectiveness and to develop methodological tools to advance the field of pharmacoepidemiology. Besides its drug focus, the center also looks at broader epidemiological questions arising in health services research.

"Harry was enormously dedicated to finding ways to help people live healthier lives," said Carolina School of Public Health Dean Barbara K. Rimer. "His success in academia and research was remarkable, and his research was accomplished while pursuing one of his great passions: teaching and advising graduate students."

Guess established the department of epidemiology at Merck Research Laboratories (MRL) in 1985 and worked there for nearly two decades. For 15 years, he also was an adjunct professor at the School. He retired as vice president of MRL in 2003 to lead the UNC center.

Honor Dr. Harry Guess by supporting a student in the study of epidemiology or pharmacoepidemiology. Complete the enclosed gift envelope and continue the work of this esteemed professor.



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Dora II'yasov

Student travel funds enhance education —

a challenge to Alumni



Anne Clayton Maternal and Child Health Master's Student

TRAVELING TO PRESENT PAPERS AT PROFESSIONAL MEETINGS or to apply knowledge and gain experience in summer internships makes the Carolina education even more valuable.

Knowing how important these experiences are, UNC Professor Gary Koch, PhD, issued a challenge to alumni. He will match every dollar donated to student travel funds.

Anne Clayton was one of many students who benefited from the School's student travel funds. "It was so valuable to get

to go to Tanzania last summer and see first-hand how programs work. I saw real challenges and barriers and also saw how USAID works with other governments to incorporate their visions and plans," says Anne. She is earning her master's degree in maternal and child health and a certificate in global health. Without these funds, the trip would have been impossible for her to afford. "Having a context for what we are discussing makes every class more relevant," Anne says.

Create travel opportunities for students by supporting the School's student travel fund. Complete the enclosed gift envelope and invest in broadening our students' experiences.



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John Eric Tobiason

Patricia Toledo



"My experiences at the UNC School of Public Health were quite instrumental in my personal and professional development and growth. My research opportunities at the School in environmental justice, environmental health disparities, and community-based participatory research helped provide the foundation for my current and future research and advocacy endeavors."

DR. SACOBY WILSON
PhD, 2005
Department of Environmental Sciences
and Engineering

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Debra McDaniel Delane

Jeffrey Darlington Denit

Patricia M DeRosa

CARMEN HOOKER O CHARLOTTE PATT M L AND MARYANN RO ND SALLIE SHUPING RE Jack and Sue Wilson UE AND JACK WILSON

Memories prompt support of the new Michael Hooker Research Center

"MY HAT IS OFF TO THE PLANNERS WHO VISUALIZED THE ATRIUM IN THE NEW CENTER. It is a perfect place for students and faculty to gather in an informal setting to discuss wide-ranging subjects, and it reminds me of the brown bag lunches of my student days in Rosenau Hall's Student Lounge. These lunches expanded my education far beyond the planned curriculum and truly brought an interdisciplinary and international perspective to bear. Students from different nationalities and disciplines participated in discussions ranging from world and national health policy, U.S. foreign policy (mainly driven by the on-going Vietnam War), leading-edge computer science, and first-hand accounts of public health experiences and lessons-learned.

When I saw the student study carrels in the new center, I remembered how prized my student office space was. It allowed efficient commuting to-and-from Rosenau classes, the library, laboratories, and an opportunity to interact with other students on an impromptu basis. Because of this, Sue and I decided we would like to name a Student Room in the new building."

JACK WILSON, MS, 1970, Department of Environmental Sciences and Engineering

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Eddie and Joanne Dauer's generous gift to the Michael Hooker Research Center is recognized with the naming of Dauer Drive.

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"My experience at Carolina has been really hands-on. I think that makes me really competitive for future jobs."

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"Faculty are interested in having me be part of their program, developing me as a student and cultivating my research interests. They are concerned with the relevance of our work to local communities and the public at large."

SCOTT ICKES

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* Deceased

Julia Wit Zupko